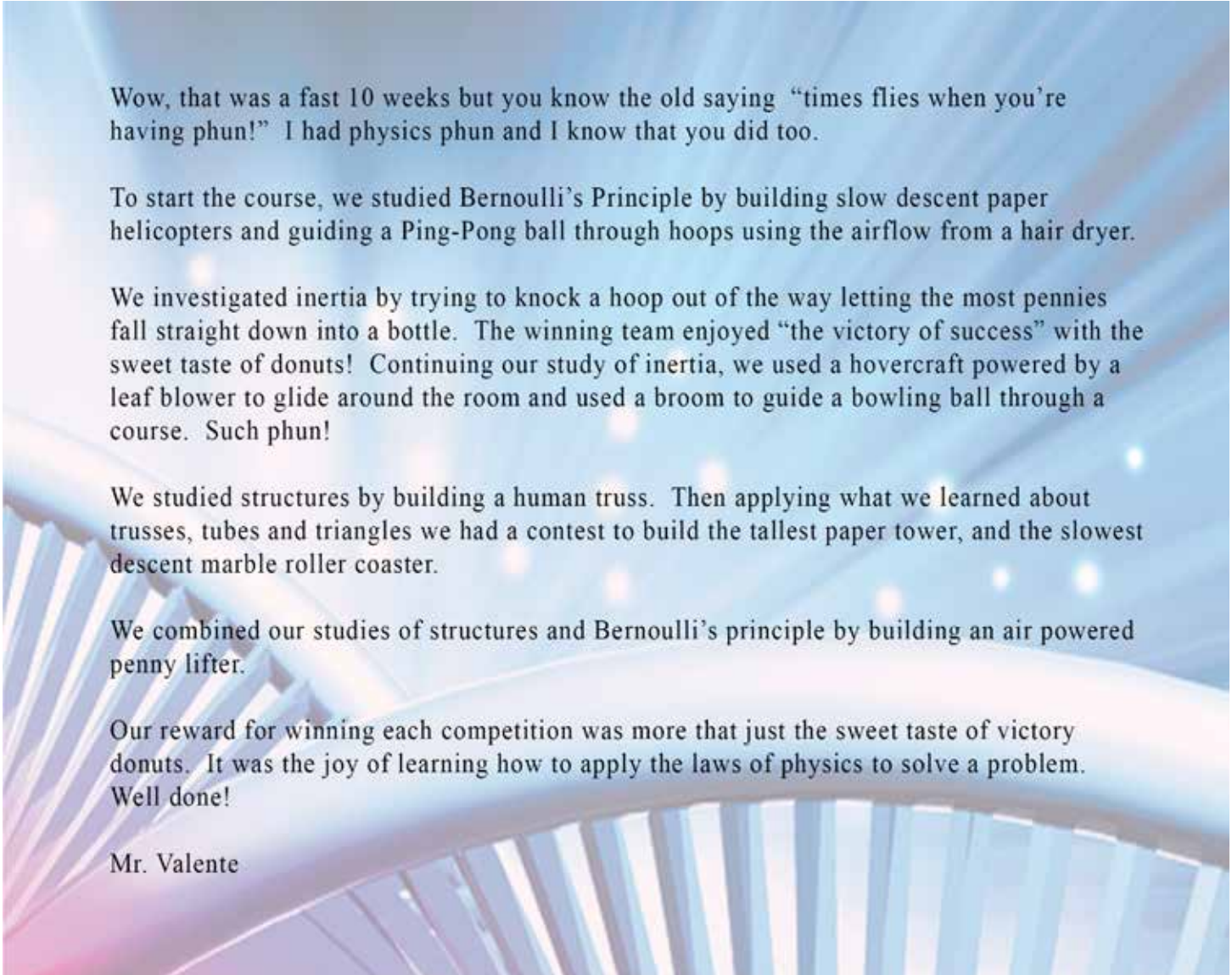




the stars
challenge

Olympics of the Mind
Fall 2015





Wow, that was a fast 10 weeks but you know the old saying “time flies when you’re having fun!” I had physics fun 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 fun!

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, and the slowest descent marble roller coaster.

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 than 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 students practice dropping their slow descent helicopter



The entire class poses for a picture before starting the bowling ball inertia contest.



Setting up the Bernoulli Ball course



The students practice the Bernoulli ball competition



The class applies Bernoulli's principle to explain why they can't make an index card move across the table.



Practicing to win the bowling ball challenge



Teaching assistances Jane and Orli take pictures of the bowling ball competition



Taking a ride on a hovercraft to demonstrate inertia



The students use the principle of inertia to remove the hoop so the pennies fall into the bottle



These guys are set to win some doughnuts!



Learning how to use rotational inertia to traversing a course in the fastest time while balance a bottle at the end of a dowel. Easy when you know physics!



Why are tubes stronger than beams? Such knowledge can lead to building the tallest paper tower.



The students build a human truss to learn why triangles and buttress' are use to build structures.



Using their knowledge of structures and Bernoulli's Principle, the students design an air-powered lifter to lift the most pennies.



Which track wins the race?



Who will build the slowest decent roller coaster and win some victory doughnuts?



