

# Frederick Law Olmsted Middle and High School Science Day

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## Abstract

As the control group, we decided to host a Science Day program for students in our school. This event was designed for 5th to 8th grade students to have hands-on experience with interesting activities relating to different science disciplines. We invited high school students grade 9-12 to the assembly program. The goal of Science Day was to get 5th-8th grade students interested in science careers. In preparation for science day we partnered with the Buffalo Museum of Science. They performed two “Science Below Zero” assembly programs. Immediately after, students were able to participate in hands-on activities in different locations around the school. The Science Club worked in collaboration with Olmsted faculties to develop activities appropriate for the day. Each science club member was assigned to be the expert in a specific activity. We planned our budget and bought materials like balloons, cornstarch, and mice to dissect. The final budget was \$2,760. After Science Day we conducted a student survey to obtain feedback on the planned activities. Our goal was to obtain student opinions on how to improve Science Day.

## Introduction

Science Day came to fruition with the help of our advisor, Mrs. Pryor-Moncrieffe, and the group effort of the students in Olmsted’s Science Club. The educational approach of Science Day was to be able to enrich middle and high school students with the use of tactile learning activities and demonstrations by the Buffalo Museum of Science.

The ability to learn is naturally present in a child’s mind. To be able to accomplish our goal we had to brainstorm ways to keep the student engaged and entertained while also being able to educate them.

The main goal of the control group of Science Club was to encourage middle school students to participate in science based activities. We did this by trying to make our science activities as entertaining to the student as possible. In classrooms, students might not be the most enthusiastic about science, but with the help of teachers and the Buffalo Museum of Science, we attempted to make Science Day so students would be exposed to the spectacular wonders of science to motivate them to go into science based careers in the future.

Students were able to participate in hands-on experiments that made them question the world around them.

The experiments we presented helped ignite young minds and supplied them with a new perspective of the natural world. We asked teachers to aid us in performing various scientific experiments. With their help, we were able to create nine different stations. Each station involved fascinating topics to provide students with an enjoyable and fun day at school.



## Results

We conducted a survey to see whether or not students thought Science Day was enjoyable, and the results were largely positive. The survey let students rank Science Day on a scale of extremely good to extremely bad. The majority of the votes were between good and extremely good.

We received feedback from students on what they thought were the most enjoyable stations. The results were that our Dippin’ Dots station was the most popular while our Bottle Rocket station was the least enjoyable. We allowed students to leave comments and suggestions for future Science Days. Some relevant comments were; students wanting Science Day to be a full instead of a half day, improvements in the Bottle Rocket station were needed, and there wasn’t enough time between stations.

Student Survey Results

Opinion of Science Day	Results (In Percent)	Favorite Activity	Results (%)
Extremely good	21.3%	Strawberry DNA Extraction	15.8%
Very good	38.7%	Mice Dissection	9.21%
Good	30.7%	Slime/ Silly Putty	6.58%
Average	8%	Bottle Rockets	23.7%
Bad	N/A	Dippin Dots	17.1%
Very bad	N/A	Dry ice	N/A
Extremely Bad	1.3%	Balloon Helicopter	6.58%
		Ooblek Pool	15.8%
		Chocolate Cookie Extraction	5.26%

QR Code of the Survey



## Methods and Materials

As a group, the Science Club organized this event by deciding which activities we would undertake. Teachers were allowed to choose what experiments they wanted to do at the stations they hosted. We collected hundreds of registration forms from homerooms and assigned students to stations based on availability and space. We were able to create both an educational and an enjoyable experience for students that attended. We needed specific materials, these included: bottle rocket kits, popsicle sticks, plastic cups, cookies, cornstarch, water, balloons, strawberries, cold rubbing alcohol, and more. We ordered materials from a number of scientific companies that include Ward’s Scientific, Praxair, Arbor Scientific, Irish Dry Ice Co, and Wal-Mart.com

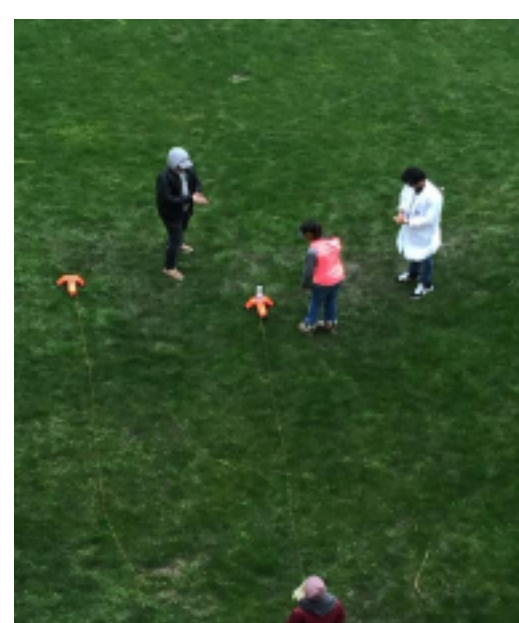
Science Day 2015



Students are preparing their balloon helicopter



Very eager to extract strawberry DNA



Students are preparing bottle rockets



Balloons are being blown



Playing with the oobleck pool



Trying to tame the dry ice bubble



Unlocking the secrets to the dry ice activity



Ready to create their own Dippin' Dots treats!



Oobleck Pool providing hands-on experience to cherish



Ready to make new, fascinating discoveries



Exploring the anatomy of mice

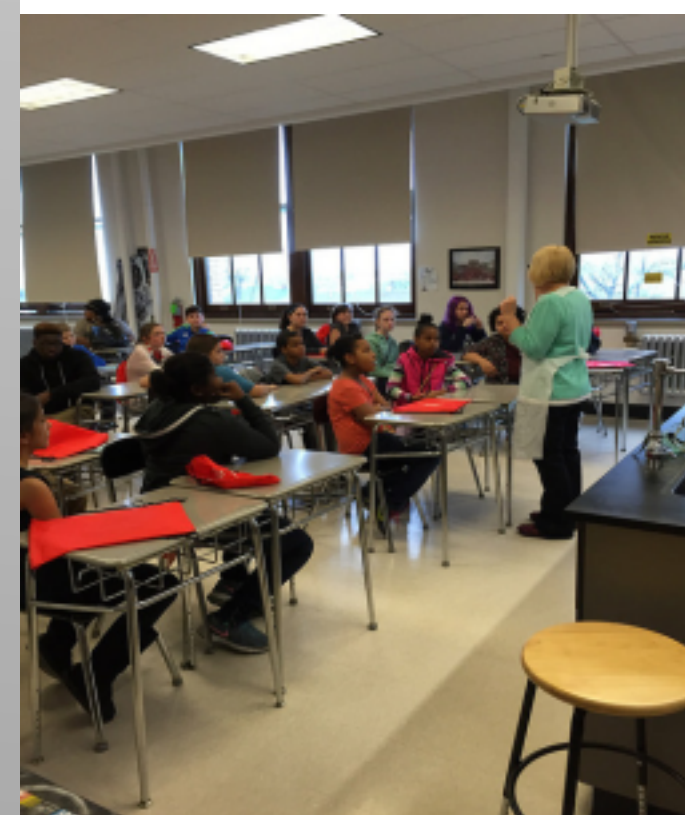


Having fun with a non-newtonian fluid

## Conclusion

In conclusion, Science Day, a new program developed by only a handful of students and our advisor Mrs. Pryor-Moncrieffe, turned out to be a success. We had tons of kids who enjoyed being able to go to various stations with their friends and take a few things home as well. Although during Science Day we encountered a few technical difficulties with payments and registering late students, we managed to succeed, making sure as many students as possible were able to participate and obtain the station they wanted.

We received feedback from students on what they thought were the most enjoyable stations. The results were that our Dippin’ Dots station was the most popular, while our Bottle Rocket station was the least popular. Students stated what they would change and also left us a few comments on what they thought about Science Day. The feedback we received gave us input on what to consider for next year’s Science Day. The students wanted the activities to be longer, and for there to be more activities as well. Using this feedback we plan on making next year’s Science Day more organized, longer, and more enjoyable to students.



Teacher explaining the mice dissection activity



Holding dry ice bubbles



Students are walking into the oobleck pool

## References

<https://www.dippindots.com/more-info/faq.html>  
<http://www.livescience.com/21536-oobleck-recipe.html>

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