

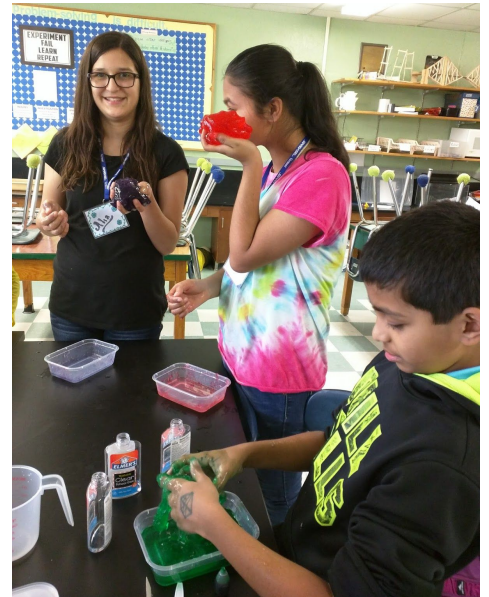
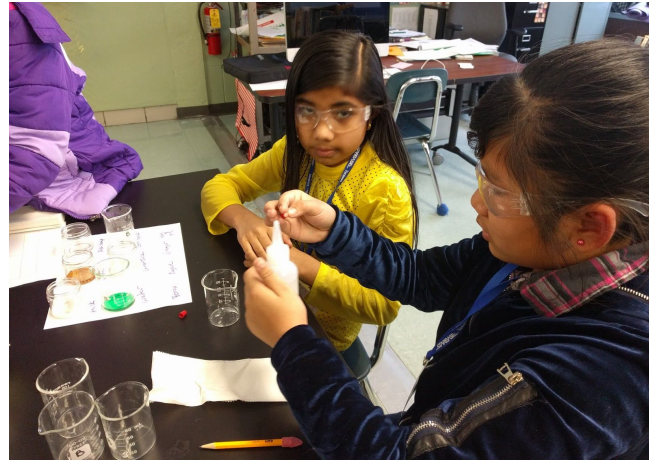
# Starbase 2.0 at JFK Middle School

Check out all the science we covered in the afterschool program!

## With our Mentor Ariel we explored the world of Chemistry:

Ariel is a Graduate student at UVM studying bioengineering, she volunteered for 4 awesome weeks with STARBASE 2.0!

- ★ We Created Oobleck! A non newtonian fluid that was super fun to play with. We also made colored slime for everyone to take home.
- ★ Another afternoon, we collected water samples from nearby rivers, lakes, and puddles. We used a microscope to see live organisms that live in the water. We also collected bacteria from door handles, books and cellphones and let this bacteria incubate in a



petri-dish for a week. The results were pretty icky!

- ★ We experimented with different densities of liquids and even made our own lava lamps.



- ★ We created beautiful, colored flowers. Using food coloring and strategically placing the flowers in water, the flowers became so vibrant!



## JoAnna (Hiker Girl) demonstrated what happens when a chemical reaction occurs!

JoAnna is a STEM teacher at STARBASE and absolutely loves inventing new ways to explore science!

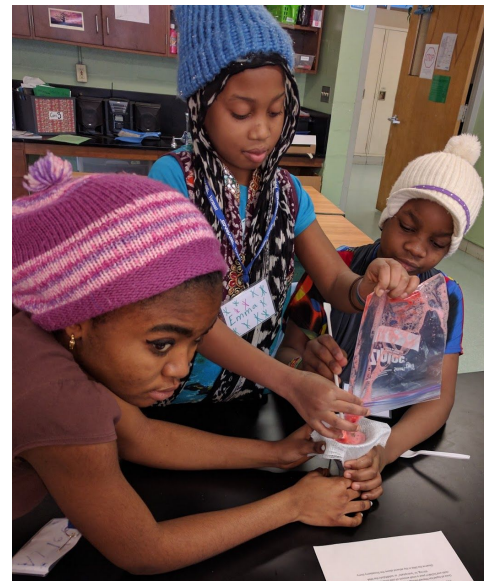
- We created mini explosions! Using water, Alka-Seltzer and film canisters we created a chemical reaction that launched into the air. The room was full of popping and laughter as the chemical reactions built up pressure and finally exploded.
- Following the experiment we looked at what took place on a molecular scale. The students used molecular model sets to build the two substances, we then combined the substances to show what actually takes place during a chemical reaction.



## Andrew ( Churchill) helped us extract DNA from strawberries!

Andrew is a STEM teacher at STARBASE and always has fun facts to share.

- With the help of Churchill we successfully removed DNA from strawberries. We using household items we created an extraction liquid. Ingredients we mixed with the mashed strawberries included rubbing alcohol, water, salt and dish soap.
- Allowing the substance to drip through cheesecloth gave us a slimy pulp. Students used skewers to pick up the stringy, white, pulpy DNA! The results were incredible!



## Meghan introduced us to the world of cosmetic science!

Meghan is a formulations chemist, she works for a skin care company in Winooski VT.

- With the help of Meghan, we explored Acids and Bases. We tested several different substances to find their PH level. The results showed a wide variety of PH levels.



- The students practiced proper science lab guidelines. Everyone wore safety glasses and carefully handled glass beakers. We also practiced measuring volumes of liquid and

collecting data.

- Meghan also taught us how to make lip balm! With all natural ingredients including coconut oil, beeswax, almond oil and fragrance students were able to take a sample home. Students carefully weighed out the proper amounts of material, then heated everything

up to form a liquid. After 15 minutes of cooling, the lip balm was smelling delicious and ready to use.

