Minnesota Mission Log



Newsletter: Summer/Fall 2019

Makerspace Event Celebrates 50th Anniversary of Apollo 11

Challenger Learning Center of Minnesota, in partnership with Mall of America and KSTP, celebrated the 50th Anniversary of the Moon Landing with an out-of-this-world event full of exhibits, experiments and activities, creating a mall-wide Makerspace. This event was an opportunity to celebrate the amazing achievements in space exploration and spark interest and excitement in Science, Technology, Engineering, Arts and Math with guests. The event educated and entertained generations, while inspiring today's children to dream limitlessly and open their minds to the possibility of pursuing STEAM careers, exploring space, or even going to Mars one day.

Over 10,000 attendees enjoyed our hands-on STEM activities around the mall. Intel brought Virtual Reality experiences, workshops and drone programming classes. The Bell Museum and High Touch High Tech brought incredible hands-on activities and the Challenger Learning Center of Minnesota brought robotics, moon rocks, astronaut Fred Gregory, straw rockets and edible Mars rovers.

A huge thank you to all our volunteers and sponsors that made the event possible! We could not have done it without you. Check out the incredible recap video made by one of our young members - Thank you Triston K! https://youtu.be/bwBsnjBv8ZY

Watch for Makerspace 2020 coming in Spring 2020!

THANK YOU TO OUR SPONSORS

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In The News

Mall of America Pond Fund Recipient

The Challenger Learning Center of Minnesota was honored and grateful to be selected as the July 2019 Mall of America Pond Fund Recipient! All coins gathered from the ponds at Mall of America from the month of July were given to our nonprofit for a total donation of $1478.92! Thank you for your support of our mission to Educate, Energize and Inspire the next generation of Scientists, Engineers, and Innovators from Minnesota!

Board Members: Terry Flower, Kasey Herzberg, Duane Edelman

10th Annual STEM Day at the Minnesota State Fair

Thank you to all who came out and stopped by our booth at the 10th annual STEM Day at the Minnesota State Fair! It was a gorgeous day again this year and we had so many creative and curious kids building extraordinary robots. Watch for next year's STEM Day on the first day of the Minnesota State Fair.

Thank you to 3MGives Foundation for your support!

A huge thank you to 3M and the 3MGives Foundation for their support of our continued robotics and STEM outreach programming. We are thrilled to provide hands-on robotics, engineering and other STEM workshops for deserving youth around the metro area.

In our robotics workshops we are scientists that work together to investigate robots—what is a robot and how do they work? Using Modular Robotics Cubelets, we then put our knowledge and imagination to work to design and build our own robots to complete engineering challenges! We deliberately set out to provide encouragement and confidence through hands-on STEM activities so that by the end of our workshop students can see that science is fun, exciting and achievable – "I can do this!".

In the month of October we provided Spooky Science workshops for students where we investigated chemical reactions through Boo Bubbles (dry ice bubbles), Ghost Balloons (baking soda and vinegar reactions) and Oozing Pumpkins!

In The News

First #AllWomenSpaceWalk on the International Space Station!

NASA Astronauts Jessica Meir and Christina Koch made history on Friday, October 18, 2019 by completing the first all-female space walk! They ventured outside the International Space Station for over seven hours to replace a power controller that had failed the week before.

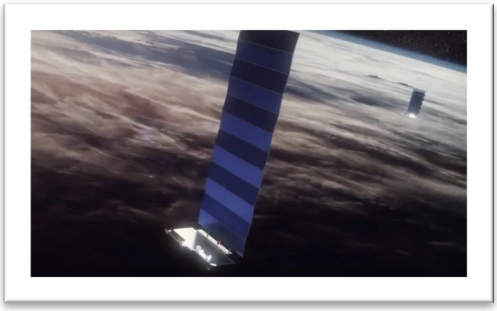
Astronauts Jessica Meir and Christina Koch

The first all-female walk was supposed to take place in March 2019, but it was postponed because NASA did not have two appropriately sized spacesuits available.

Both women were part of NASA's 2013 class of astronaut trainees, which was the first to include equal numbers of men and women. There are now 12 female astronauts in NASA's ranks, out of a total of 38 active ones. Jessica Meir is on track to break the record for the longest single spaceflight by a woman, with an expected 328 days in space if she returns to Earth in February 2020, as scheduled. Friday's outing was her fourth spacewalk. Next stop—first woman to walk on the moon!

SpaceX Launches First 60 Satellites for Starlink Network

On May 23, 2019, SpaceX launched the first 60 tabletop-sized satellites atop a Falcon 9 rocket from Cape Canaveral, Florida that will become part of the Starlink internet network. Starlink, once complete, will consist of nearly 12,000 satellites that will blanket the Earth with high-speed, low-latency and affordable internet access. The mesh network of satellites are connected to each other by space lasers.



Satellites in the Starlink network.

The Starlink network will need about 6 to 8 launches of satellites to have enough coverage to start offering broadband service in 2020 with hopes to complete the mega-constellation by 2027.

SpaceX CEO Elon Musk has a Starlink terminal at his house and he used it to send a tweet early on Oct. 22."Sending this tweet through space via Starlink satellite," he tweeted to his 29 million followers. "Whoa, it worked!!"

The next Starlink mission is scheduled to launch in mid-November with a Falcon 9 that has been flown three previous times.

How Can You Help?

- Visit our website for more information and contact us to learn how you can get involved.
- Sign up for an individual or Family Membership, or consider a donation - information on the website: www.challengermn.org/membership.html
- Help us get the word out!

Challenger® LEARNING CENTER MINNESOTA

Save the Date!

Give to the Max Day is Thursday, November 14

Please consider our nonprofit during #GTMD19: Click Here

Spooky Science

Looking for some fun and spooky science to do at home this Halloween? These two experiments are a fun way to learn about chemical reactions.

GHOST BALLOONS

You will need:

- Empty water bottle
- Vinegar
- Baking soda
- White balloon

Experiment:

- Draw a ghost face on your balloon with a Sharpie marker while it's deflated.
- Measure 3/4 cups of vinegar and pour carefully into the empty water bottle.
- Using a small kitchen funnel, add 1 **heaping** TBSP of baking soda into the balloon.
- Carefully put the end of the balloon around the mouth of the water bottle WITHOUT dumping any of the baking soda into the vinegar. Make sure the balloon is secured tightly to the water bottle.
- When ready, lift the balloon up and let the baking soda fall into the water bottle. Watch the gas from the chemical reaction inflate your ghost balloon!

What's Really Happening?

When the baking soda combines with the vinegar, it creates a chemical reaction to form carbon dioxide gas. The gas has nowhere to go except to inflate the balloon! Did you notice your bottle and balloon got colder? That's because the reaction needs heat to make it happen, so it takes heat from its surroundings, leaving the bottle and balloon feeling cold.

OOZING PUMPKIN

You will need:

- Carved pumpkin (real or plastic)
- Vinegar
- Baking soda
- Dish soap
- Food coloring (optional)

Experiment:

- Sprinkle 1/2 Cup of baking soda in the bottom of your pumpkin.
- Measure 2 cups of vinegar in a large measuring cup. Add a few drops of your favorite food coloring (optional) and a few drops of liquid dish soap. Stir all these ingredients together until the solution is mixed thoroughly.
- Carefully pour the liquid solution into the pumpkin to mix with the baking soda. Replace the top of the pumpkin and watch your pumpkin ooze!

What's Really Happening?

First: This is very similar to the Ghost Balloons experiment. When the baking soda combines with the vinegar, it creates a chemical reaction to form carbon dioxide gas. This gas creates a lot of tiny bubbles.

Second: By adding the dish soap to this experiment, those tiny bubbles of carbon dioxide gas attach to the dish soap to create a more visual effect. Essentially the carbon dioxide is blowing bubbles in the dish soap!