SUSSEX COUNTY CHARTER SCHOOL FOR TECHNOLOGY

CHARTER NEWS

February - March 2018

Students Build Mars Colonies

6th grade STEM class combines astronomy and engineering to design future outpost on Mars.

"Space: the final frontier," wrote Gene Roddenberry. "Look out NASA and Elon Musk; the 6th graders of SCCST may get to Mars first," said Mrs. DeCaprio, Science/STEM teacher. Last marking period, the students studied space exploration in STEM class, specifically the Mars frontier. First they researched the planets and their distances from earth comparing atmospheres, surfaces, presence of water, and levels of cosmic radiation. They generated lists of survival needs by studying how the astronauts live on the Space Station. After listening to excerpts from The Martian by Andy Weir and doing a 360° virtual tour of the International Space Station, the

students used their survival lists to create a scaled version of what they thought could be a potential colony on Mars.

Marsville and Mars Star Clan were two of the colonies built. They included greenhouses for food growth, fuel chambers, habitats, a hydroponics kitchen, hospital, rover, rocket station and landscape. They even took into consideration satellites that could communicate back to Earth. Many were concerned about maintaining healthy bones and muscles on the lower gravity planet, and decided to add a health center and exercise room. The math involved in scaling the colony to 1/100th that of real Mars was challenging at times, but gave the students a perspective on what architects do as part of their jobs in building models of larger structures that will be built. The resourcefulness the students showed in building their modules was amazing. Thanks to the many egg crates that parents sent in, students built seats, computers, and beds out of egg crate units. A Saran Wrap box was turned into a rocket, lifting off from the surface, and a Quaker oatmeal cylinder was transformed into a futuristic-looking habitat building, complete with toilets. Students concluded their projects by presenting their respective modules to their classmates, who gave them peer reviews that were included on a special "Memory Wall".

All modules were added to a "Martian" rust-colored surface for future display in the "mission control" of our STEM classrooms. The mission is complete for now...

Engineering Career Talk

Evie Kyritsis, a recent graduate of MIT and a Testing Engineer at iRhythm Technologies, presented a career talk to the Society of Women Engineers (SWE) and STEM clubs. Her presentation about being a testing engineer was both informative and inspiring. She showed the students a new, wearable heart monitor her company is testing and shared cool stories about how she tests new products; like throwing them from high places and putting them under a high degrees of stress. The students never realized engineers could have such fun! Dr. Schwartz and Mrs. DeCaprio could tell from the students thoughtful questions how much she motivated them!.

Evie loved our school and said she wished she could have attended a school especially dedicated to technology and STEM when she was in middle school. Those in attendance put together a Thank-you card at their next STEM club meeting to thank Evie for taking the time to visit and enlighten them about what Testing Engineers do.

Twin Day

SCCST students held a “Twin Day” where they dressed up as their favorite teachers.

As Ms Cruciata with Ms Cruciata

As Mrs. Sevean

As Mr. Bell

As Mr. Freeman

As Mrs. Myslinski

As Ms. Kopycinski with Ms. Kopycinski

As Dr. Edgerton

As Mrs. Goetchius

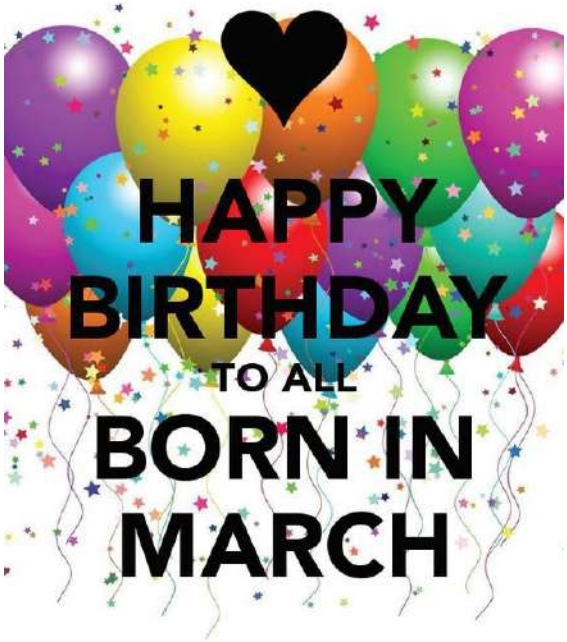
As Mr. Baldini

As Mrs. DeCaprio

KEY DATES

April 1 - 6	Spring Break
April 11	End of marking period #3

As Ms Graziano



As Mrs. Frey

March Junior Scientists

A student-created Cartesian Diver experiment with a carbonated twist was initiated by the group below!

(Left to right: Brianna Meyer, Giana Ezzo, Hannah Gallagher, Heidi Gallagher, Melissa Glick)

Holocaust Survivors Speak to Students

The 8th grade class had the privilege of listening to the personal stories of brave individuals who lived through the Holocaust. The moderator, Sue Rosenthal, introduced the survivors - Bella Nathan and Joe & Magda Ungerleider - and then began with a discussion about name-calling. She stressed the danger of this in today's society, as it was also a problem prior to and during the time of the Holocaust. She encouraged students to accept people for who they are and to try to stand up against those who may try to cause hurt or harm to people who may be different.

The program was offered to the 8th graders to tie into their unit, Literature Reflects Life. They understood how fortunate they were to have such special people come to our school, since not many survivors are with us anymore. The speakers not only spoke of their personal experiences during the Holocaust, but also, like Ms. Rosenthal, discussed the importance of treating all people with respect and building empathy for others. Students, staff, and invited guests who attended this program listened intently to these stories and could not wait to thank the speakers at the end, who were very happy to give and receive hugs.

8th graders meet Holocaust Survivors

Left to right: Mrs. Myslinski, Magda & Joe Ungerleider, Mrs. Steffens, Mrs. Kotlarz, Mrs. Nathan

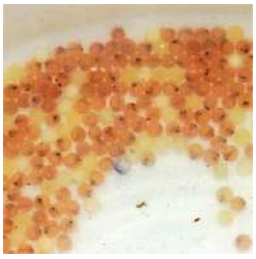
Wallkill Watershed Protection Presentation

Students were treated to another Guest Lecturer presentation by Kelly Norris, Education & Outreach specialist for the Sussex County Municipal Utilities Authority and an AmeriCorps volunteer. The Wallkill River drains Lake Mohawk in Sparta, flowing northeast

for 88.3 miles to Rondout Creek in Orange County, NY. Eventually, the water drains into the Hudson River.

A working scale model of the watershed, known as an Enviroscape®, was used to demonstrate how runoff from multiple sources can lead to pollution levels that endanger both wildlife, crops, and humans. Students were introduced to concepts such as ecosystem enhancement, nonpoint source pollution, restoration and stormwater management.

Trout in the Classroom (TIC)



TIC, our science-based program that teaches children about the importance of coldwater conservation, is providing the next generation of fish for the Pequest Trout Hatchery.

As reported in our last issue, only **5%** of the trout eggs in the State-wide TIC program will make it it to the wild release stage. Several districts have lost all their fish due to various issues with temperature control, water quality, etc. The SCCST program however, has a **28%** survival rate with dozens of 6-8 cm sized (2¼" - 3") trout swimming happily in the tank.

Students in all grades have participated in caring for the fish and in lessons on water analysis, chemistry, life sciences, and ecology. Students test, monitor, and journal factors such as nitrate, nitrite, pH, and ammonia levels; water clarity, fish behavior (trout are very territorial), and growth. There's much more information to come so **watch this space.**

Note that the fish are all facing in the same direction!

The Brook Trout (*Salvelinus fontinalis*) usually grows to a length of 25 cm (10 inches) and lives an average of 5 years.

Krispy Kreme Doughnuts® Fundraiser

The donut fundraiser was a great success, netting the school almost $3,000 in funds. Students and parents sold a total of 719 boxes, filling the teacher's conference room from wall to wall on pick-up day. Leading the pack for all grades was 6th grader **Nina LeValley** who sold 67 boxes! The 7th grade was led by **Jacob Abraham** with 55 boxes and **Christian Cortez** led the 8th grade with 32 boxes. The accounts for each grades' trip was funded as follows:

6th grade = +$580 7th grade = +$948 8th grade = +$1,349

2nd Appalachian Trail Hike ascends Highpoint

Mr. Fialcowitz and his family led another hike at High Point State Park with the 6th graders, family and friends. Walking the Monument Trail Loop (3.5 miles), they climbed to the summit at 1,803 feet where they reached the High Point monument. The view included Mountain Creek Ski Resort, Port Jervis, New York, and the Delaware River. The hikers found a puddle of *snow fleas* (harmless to pets and humans) and the Totem Pole Tree. Everyone is looking forward to the next hike on Sparta Mountain at the Thomas Edison Mines/Monument, scheduled for March 24th (Saturday at 10 a.m.). You can view more photos including the snow fleas, on the **PTO Facebook** page.