Scholars Academy Newsletter

Spring 2019

Principal's Corner:

As you read through the various Math, STEAM, and Science events that the students participated in during their Scholars Academy program, notice the smiles, excitement, and most of all, learning opportunities that the students experienced during this school year. Thank you to the parents of our students who continue to support this program. A special thank you to the teachers and administration at the home schools who communicate with the GT staff to support the students as well. Students, continue to work on your Summer Bucket list that you received during the GT Expo (it's also posted online) and we will continue our Critical Thinking, Communication, Collaboration, and Creativity (the 4C's of 21st Century learning) in September!

-Mrs. Machuca

Meet Luna Grace!

Science with Mrs. Dormann

Scholars returned from winter break and entered the world of engineering.

They began competing in engineering challenges such as egg drops, mystery architecture, and write it/do it.

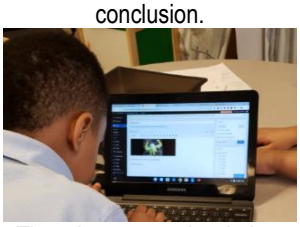
In each of these challenges, students worked on developing their creativity, critical thinking, communication, and collaboration skills.

First and Second Grade Scholars

1st and 2nd graders became botanists. They used the scientific method to develop their own experiment from scratch to test what seeds needed to grow.

Students each chose their own variable and designed and carried out an experiment based on that variable. Students chose variables such as air, water, sunlight, nutrients, and soil.

Each student recorded their data, analyzed it, and formed a conclusion.



They then created websites documenting their work to share with other scientists.

Check out our blogs here!

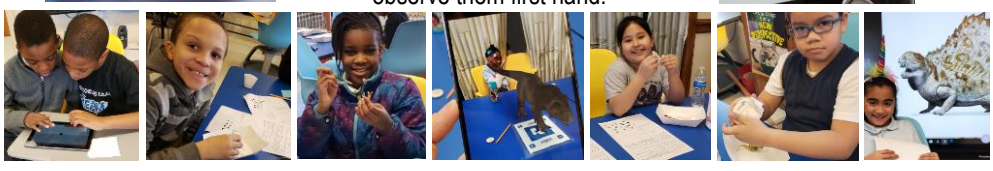
Aya Elijah Xavier- www.Scholars18.edublogs.org
Saniya Ryan- www.Scholars22.edublogs.org
Alana Anthony- www.Scholars25.edublogs.org
Regina Amelia- www.Scholars20.edublogs.org
Ayden Andrew- www.Scholars27.edublogs.org
Adriel and Esthelle- www.scholars11.edublogs.org
Dimelli and Adrian- www.scholars1.edublogs.org
Andrew and Sarayah- www.scholars6.edublogs.org
Tyler and Ymani- www.scholars9.edublogs.org
Doute and Tiara- www.scholars7.edublogs.org
Brian and Dickson- www.scholars4.edublogs.org
Ali and Abril- www.scholars14.edublogs.org

Third Grade Scholars

3rd graders became paleontologists and dove into fossil research. Students learned about the different kinds of fossils. Students each chose a dinosaur species and research their lifestyles.

They then used paint, clay and glue to create their own mold, trace, and cast fossils of their species and presented it to the class. We then used Virtual Reality and Augmented reality to bring these extinct creatures back into our classroom and observe them first hand.

Students then put their knowledge to the test. They were shown different fossils and had to use their reasoning skills to develop a claim based on evidence as to whether the fossils were aquatic or terrestrial.



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Skype in the Classroom

Students were able to Skype with multiple scientists this year. First, they Skyped with a biomedical engineer from NADA. Then, they had a live Q&A with Jane Goodall. Students also skyped with a mechanical engineer who explained to them what it's like to go to school for engineering and what they can do to be ready for future careers in engineering.

Career Associations

Students at Scholars Academy looked into STEAM jobs. They looked into the educational requirements and found associations affiliated with those careers. Students reached out to organizations such as ASME, NSBE, AZA, APS, AACC, AVMA, NSTA, NAPO, ACS, and ACET. Students were given honorary memberships and also found mentors to skype with.

Fourth Grade Scholars

4th graders used Augmented Reality, Virtual Reality, and 3D computers called ZSpaces to further compare plant and animal anatomies.

They researched different species and developed claims based on evidence as to the structures these organisms had to help them survive.

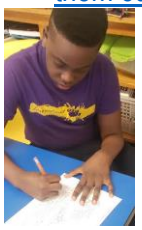
Technologies allowed them to see these organisms up close and observe them using these structures in their natural habitats.

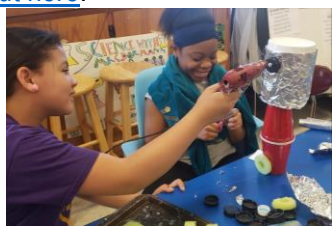
Fifth Grade Scholars

5th graders began to focus on the human impact on the environment. We looked into problems caused by humans and developed solutions to these problems. Using Padlet, we created concept maps. Check them out here!

Students researched problems such as air pollution, noise pollution, light pollution, water pollution, overfishing, global warming and sea levels rising, decline in biodiversity, and the amount of waste being created.

Students designed prototypes for their solutions on TinkerCAD. Finally, students ended the year working towards one of the UN's Global Goals. Each student chose a target for a goal and helped develop solutions to help meet this goal.



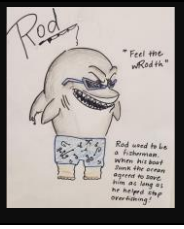


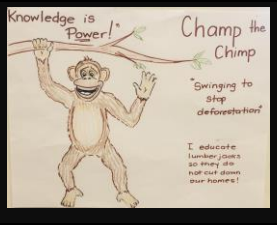
Climate Change Comic Contest

Students are ending the year with a climate change comic contest. Each student chose a man-made climate issue.

Students created a superhero with powers to stop or solve one of these issues.

More information about the comic contest can be found here.





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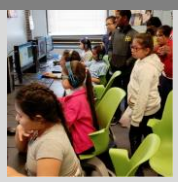
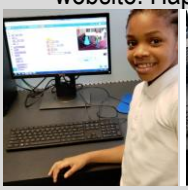
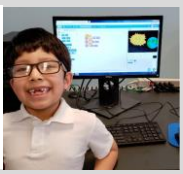
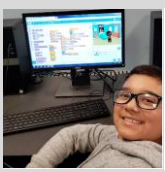


In March our **1st, 2nd and 3rd** graders started a unit in Storytelling using Google CS (Computer Science) First. Students are coding in Scratch, creating characters, backgrounds, speaking and adding sounds to tell their story. They are learning about Computer Science through coding. They each received their CS First Passport to Computer Science Storytelling booklet. Each time they complete an activity they will receive a sticker (badge) for that activity. There are eight in all. They are getting very creative having their characters (sprites) have a conversation back and forth, changing background scenery, and adding movement. They are having a lot of fun while coding and creating their own story! They are enjoying showing their classmates their work too! We have future Computer Programmers in the making! Please have them continue to code at home at scratch.mit.edu They can set up free accounts at home. There are great tutorials for Scratch right on that website. Happy Coding!

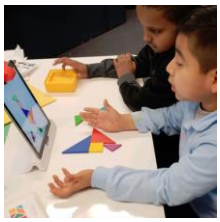



STEAM with Mrs. Nadbielny

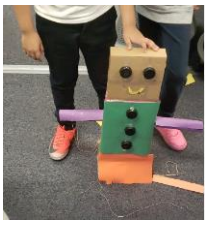
Students have been using the Design Engineering Process for hands-on engineering type activities. They have also been using their artistic abilities as well as learning new technology. In addition, students have coded a variety of programs and robots.

Our 1st and 2nd Grade Scholars learned about tangrams while reading "Grandfather Tang's Story". They worked with a partner using Osmo kits to build tangrams. Tangrams teach students about spatial relationships. We discussed the seven geometric shapes and students worked at problem solving skills as they had to create various pictures using all seven shapes.

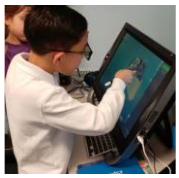

We read "Snowflake Bentley", the true story about Wilson Bentley who was a simple farmer in Vermont in the 1880s. For fifty years he developed his technique of micro-photography to reveal the beauty and mystery of the snowflake. We discussed the science and shape of snowflakes. Students designed their snowflake using marshmallows and toothpicks. They did a great job and had fun eating their marshmallows after showing off their creations!



We celebrated Black History month reading books about Martin Luther King Jr., Hidden Figures, Katherine Johnson, Mae Jemison and Lonnie Johnson. Students worked in pairs to create their own space capsule using coffee filters for parachutes, created their own inventions, and built a launcher for their rocket ship.




Our 3rd Grade Scholars completed a unit on the six types of Simple Machines: Levers, Wheel & Axle, Pulleys, Inclined Planes, Wedge and Screw. We discussed what a Simple Machine is, a tool that makes work easier to do. Students built a variety of simple machines using K'nex and Engino kits. Students created a Google Slides presentation to show pictures of Simple Machines and write about how they make work easier. They also included Gears and had an opportunity to try pulling up a jug with water using a Pulley. We have future Engineers in the making!

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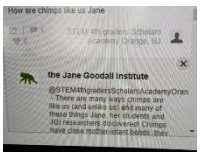
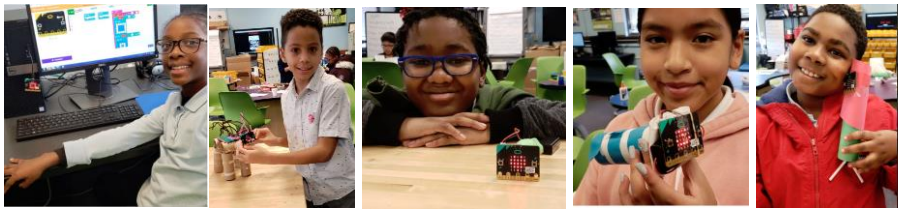
Skype in the Classroom

We had two special guests that we were able to Skype with based on some of the bottle biography projects that students created. We had a live presentation from Dr. Jane Goodall brought to us by Microsoft. Students heard from Dr. Jane Goodall about how every individual's action can make a big impact. One of our 4th graders asked a question which was answered by the panel at the Jane Goodall Institute.



Our 5th graders face-timed my father live from San Diego, CA. He was a bat boy for the Brooklyn Dodgers when he was 17 years old. He retired to CA after spending a career in Brooklyn as a firefighter. A couple of our students selected Jackie Robinson and Hank Aaron to do their research on. My father spoke about Jackie Robinson, Hank Aaron, Stan Musial, Clyde King and more while a bat boy at Ebbets Field. He showed our students his book collection on the Brooklyn Dodgers as well as his collection of 25 autographed baseballs and several autographed bats. The students did a great job asking many thoughtful questions.

Our 4th and 5th Grade Scholars coded micro:bits (it's a mini computer board with sensors) to do various tasks. They coded using Microsoft's Makecode a block type language. Students interviewed their partner to find out what their ideal pet would be. After interviewing one another they had to sketch their partner's ideal pet and create it using limited materials. They coded micro:bits for the face of the pet.



Students created accounts in Scratch and coded a balloon popping game and their own games. We celebrated Black History Month and Women's History Month. Students selected a person to research. They created Google slides with the information and pictures. They coded in Scratch to tell the story. They created their person of interest with limited materials. Students used Makey Makey to complete a circuit with their program and keyboard to run the code. They did an AWESOME job! They selected Dr. Vivien Thomas, Barack Obama, Rosa Parks, Usain Bolt, Abraham Lincoln, Martin Luther King Jr., Hank Aaron, Jackie Robinson, Katherine Johnson, Dorothy Vaughan, Ray Charles, Malcolm X, Rosa Parks, Mae Jemison, Harriet Tubman, Amelia Earhart, Ada Lovelace, Jane Goodall, Sandra Day O'Connor, Ruby Bridges, Oprah Winfrey, Ruth Bader Ginsburg and more. Each student presented to the class.

We are finishing strong with Coding in STEAM, now using Sphero BOLT robots and the Sphero EDU app to code a variety of challenges.

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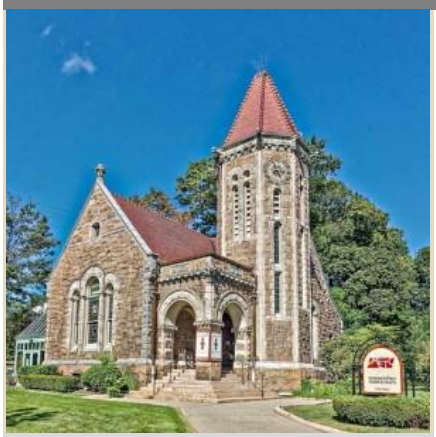


Hours & Admission

Hours

Monday:
Closed
Tuesday–Saturday:
10am–4pm
Sunday*:
Noon-5pm

***Closed on Sundays in July and August**

Admission

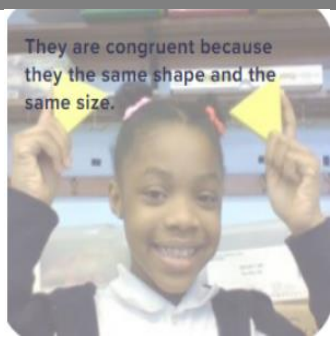
Adults
$5
Students, Children & Seniors
$3
Family Maximum Rate – $15.00

Museum of Early Trades & Crafts Field Trip

Once again the Orange Initiative grants paid for Scholars Academy third and fourth grade students to go on trips to the Museum of Early Trades & Crafts in Madison, NJ. On December 6th students from Rosa Parks, Park Avenue and Cleveland attended and on February 26th students from Lincoln, Oakwood, Heywood and Forest attended along with the GT teachers. The students learned about tradespeople and the community in the 18th and early 19th century. Our students had the opportunity to discuss the materials, methods and production of the tradespeople. Each student assumed the identity of a tradesperson and then the group created a "community web" by identifying the contributions of each individual. Students learned about the role of the blacksmith, tinsmith, cooper, miller, printer, wheelwright and many more.

One student commented that she has a new appreciation for the work that her great grandparents did. Students also played the role of apprentice tinsmiths and created a punched-tin craft to take home along with a gift certificate to return to the museum with their family for free. When the students returned to Scholars Academy they created Google slides presentations to describe at least three of the tradespeople they learned about and what their role in the community was. These programs connect the past with the present, provide a deeper appreciation about how our current society developed, and help students understand what it means to be 21st-century citizens.

Students all received an orange certificate for free family admission for a return visit!



Math with Mrs. White

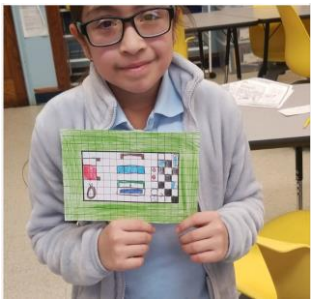
Grades 1-4 learned and practiced algorithms on the 2 by 2 Rubik's Cube. They were introduced to and practiced using the meaning of **Algorithm**. They used their critical thinking and communication skills working in pairs manipulating corners of the cube. When using the needed four step Algorithm, scholars were able to achieve their desired pattern on the top layer of the cube that replicated a given pattern. They later came together as a whole class to create one large mosaic piece of art.

Grade 1 and 2 used their critical thinking skills in competing with their peers in a Rubik's Race Game, where it was a one to one race sliding the correct color patterns of 9 squares into the middle within a group of 24 squares before their opponent.

Grade 1 and 2 wrote and read numbers symbols and values in the Egyptian numeral and Chinese numeral system. We compared our base 10 number system to Egyptian and Chinese numbers about the absent or presence of a symbol for zero or "nothing" and talked about how writing larger numbers differ when there is a place value system present or not present.

Grade 3 used different arrays to find patterns for mathematical operations. After using arrays in rows of 10 and rows of 7, we used arrays to introduce area and perimeter. After learning about area and perimeter, we applied the learned skills to create tiny houses given a maximum area of 100 square feet. Scholars found perimeter and area of all rooms in the house and had to fit a required amount of furniture in a small living space.

All scholars used the ratio of circumference divided by diameter to get Pi for Pi Day. In this activity, they traced and measure the outside of a plate with a circumference of 22 inches and a diameter of 7 to get Pi 3.14.



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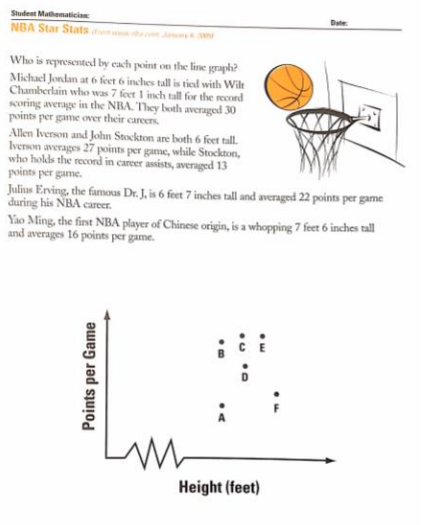
Grade 4 used their critical thinking skills in competing with their peers in a Rubik's Race Game, where it was a one to one race sliding the correct color patterns of 9 squares into the middle within a group of 24 squares before their opponent.

4th grade used algorithms on the Rubik's Cube to create mosaic pictures and some solved the 3 by 3 cube!. 4th grade found 3 Dimensional shapes all around us (did a shape hunt online) and presented their slides on google naming each 3D shape and explained how pyramids, prisms, cubes, and other polyhedra were alike and/or different.

5th grade provided written and visual examples of how geometrical shapes are similar and/or congruent. 5th grade interpreted relationships between dependent and independent variables in word problems and points given on a graph and the meaning behind the coordinates given. 5th grade also created Rubik's Mosaics and some were able to solve the cube.



Student Mathematician: Date:

NBA Star Stats

Who is represented by each point on the line graph?

Michael Jordan at 6 feet 6 inches tall is tied with Wilt Chamberlain who was 7 feet 1 inch tall for the record scoring average in the NBA. They both averaged 30 points per game over their careers.

Allen Iverson and John Stockton are both 6 feet tall. Iverson averages 27 points per game, while Stockton, who holds the record in career assists, averaged 13 points per game.

Julius Erving, the famous Dr. J, is 6 feet 7 inches tall and averaged 22 points per game during his NBA career.

Yao Ming, the first NBA player of Chinese origin, is a whopping 7 feet 6 inches tall and averages 16 points per game.

Wacky World Record Situations

a. Name some of the things that vary in each situation.

b. Explain how the variables change in relation to one another (for example, the distance increases as the time increases).

1. A LEGO® tower built by children in Tallinn, Estonia took four days to build, from August 18–21, 1998, and grew in height to a maximum of 82 feet. In this very successful fund-raising project for the Tallinn Children's Hospital, the children used 391,478 plastic brick pieces to construct the tower.

a. _____

_____

b. _____

_____