

RUTHERFORD

GIFTED & TALENTED



Bits and Bytes

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Grade 1 & 2 Enrichment

First and second graders have been extremely busy in Enrichment class. Students were very excited about meeting our “thinking mascots” and learning how to think in a variety of ways like our animal mascots.

One of the highlights that was completed earlier this year was to have first graders design and build a “spicycle” which is a bicycle for an eight-legged spider. Using classroom supplies and imagination they were able to create some very unique models that our spider friend was able to ride safely.

Second graders completed a variety of inventions with varying degrees of difficulty.

Our most extensive project was an invention that required the use of a cardboard tube as one of the materials. After saving hundreds of cardboard rolls, they got to work and were very clever with their blueprints and final products. Each student created an invention that told how they worked, materials that were used and what problem it solved.

First and second graders also worked like detectives to solve a variety of puzzles. First graders had to use deductive reasoning and logic elimination to find the mystery animals and mystery creatures that were discussed in class.

Second graders spent a few class periods learning and solving **Sudoku** puzzles. Once they started to perfect the puzzles using paper and pencil, they tried a few out using the Chromebooks. Students also became familiar with logic elimination grids and getting rid of all of the wrong answers to be left with what was correct. Students thought logically about each clue given and were able to solve the grids like experts.



Grade 3 Discovery

Discovery Class at Lincoln and Washington Schools began the year with a unit on self-reflection and self-discovery. The students reflected on their lives and talents and began writing an autobiographical piece in an untraditional way and created a shield of symbols that represented them. The students enjoyed becoming acquainted with each other through their conversations and presentations.

Discovery students had the opportunity to create some very unique sculptures using materials with many constraints put into place. Students needed to make sure the sculpture was three-dimensional and could stand alone. Projects came alive as students shared each one and gave detailed information about the inspiration for the project idea.

In the Fall, we were lucky to visit the Grounds for Sculpture in Hamilton, NJ as a culminating activity for the sculpture unit. Many parents were in attendance, as well as the fifth grade GT students who were unable to take the trip in third grade because of the pandemic.

After receiving a Rutherford Education Foundation grant for LEGO kits, students utilized the kits for a challenging and rewarding task. Third graders in both schools downloaded the WeDo 2.0 app onto Chromebooks and followed the procedures for building and coding the model, Milo the Science Rover. Once this initial task was finished, the students synced their LEGO hubs to Bluetooth and then coded their models to move. Lastly, the students researched and reported on a given topic. Students worked independently building and coding another LEGO model to coordinate with their own topic of study. Additionally, all of the classes learned about speed, volcanic eruptions and why it's important to have a base on the moon through the LEGO activities. A few students went on to find out about the use of a prosthetic hand.

This spring, students learned to sew. Each child in Discovery will be sewing their own felt square that represents their family. The completed project will be part of a class quilt that will represent student families and their origins.

We were thrilled to host an Open House for each class. Parents were invited into class so the children could showcase all of their projects from the entire year. Everyone was excited to see what has been accomplished and the growth that the class has made in such a short time.



Pierrepoint School – Amanda Almaliah All Grades

I felt very grateful to be back in my old classroom this year, a room I had been in since I started in Pierrepoint back in 2010. I realized that for almost every current Gifted and Talented student it was the first time they had ever been in there. While the room itself isn't particularly important, it felt like home to me; and having a "normal" G&T year again was such a treat.

That feeling of normalcy lasted until January, when I found out I had to take leave for shoulder surgery. While inconvenient, I was so proud of my students. They put in great work on the projects I prepared for them and treated their new teacher with respect. The six weeks out seemed to fly, I came back and we finished out an amazing year!



4th Grade – Inquiry

4th grade started out understanding the rules, procedures and general guidelines for G&T. We spent a little time practicing creativity, critical thinking and logical thinking; skills that are the basis of much of what we do in class. We then jumped right into our year's theme of ecology. Students began to understand habitat and environmental problems that threaten animal species. They each researched food webs, habitats, and ecosystems.

Next came the Noetic Math competition. We prepared weekly by solving math problems. The competition was tough, but I saw everyone persevere and many students made honorable mention!

Following this, students began reading *Who Really Killed Cock Robin?* by Jean Craighead George. Through reading the story, students continued to learn about human impact on the environment and thought about ways we all can make a difference. In this interdisciplinary unit, students learned about the chemicals used in our daily lives and how pesticides and insecticides affect an entire food chain.

We took a brief pause on the novel while I was out. This gave the students the opportunity to flex their creative muscles. They learned about animal endangerment and how animals have to adapt to live in their habitats. Students chose an animal that is currently on the endangered list, researched it, the problems it faces and thought of ways it could adapt to survive. Using this knowledge base, students designed a diorama of his/her animal in their habitat of the future and

described how the animal would be able to survive.

When I returned, the class continued to read our novel and the children anxiously awaited the answer to "Who Really Killed Cock Robin?" The highlight of our year was the field trip to Tenafly Nature Center where the students got their hands dirty studying pond ecology and finding out what is living in that habitat. They also were able to meet some endangered animals in NJ like a snake, turtle and owl. Hopefully, they were inspired to be the change we need in the world.



5th Grade – Inquiry

While the 4th grade was focused on fostering independent and creative thinking, 5th graders worked cooperatively to solve problems and learned how to brainstorm to generate ideas. Our theme this year, while heavily centered on space, was about travel and expedition.

We started the year off with exercises which focused on goal setting and positive character traits. We learned about the Race to Space and why the United States started NASA. Students learned facts about the moon, the International Space Station, and the layout of the different space shuttles. We prepared ourselves for the best day in 5th grade G&T...our trip to Buehler Challenger & Science Center in Paramus. That day, 5th graders turned into astronauts and scientists. Through cooperation, problem solving and communication, students were able to land on the moon!

Next up, students started on the *Things that Fly* unit. They worked in small groups to create a glider and learn about aerodynamics and flight. While seemingly easy, this difficult challenge required them to construct a glider that actually glides. The best part of this challenge was not in the design, but in the problem solving when almost every team realized there was something they needed to improve upon and redo. We followed the design process and quickly begun to understand why there was learning in making mistakes. We finally had our final test run in the multipurpose room and analyzed what we could do better if students had time to continue to redesign.

Switching gears, we brought our sights down to Earth for our next project called *Road Trip*. This adventure was a problem-based learning group project where students worked in small teams (pairs) to create a route that takes a fictitious family across the country to see sights they recommend with limited time and budget. To present their “trips” they created a presentation along with creative representations of the places they recommended like a sculpture, postcard and *Yelp* review. I am hoping to visit some of their recommendations soon!



6th Grade – Inquiry

Sixth graders found out first hand that, “there is nothing like first-hand evidence” as this year’s theme was *Becoming a Detective*. Things were never as easy as they seemed this year, as we started off with tests of observation, critical thinking, and perseverance. Students had their questioning and inquiry skills sharpened and practiced deductive reasoning all through

classroom activities that seemed more like games than hard work.

Students became experts in handwriting analysis, fingerprinting, trace evidence, and chromatography during their field trip to the Meadowlands Environmental Center where they worked as Crime Scene Investigators to solve the mystery of the Stolen Terrapin. Practicing Matrix Logic puzzles and other educational puzzles added to the challenge and excitement while sharpening their problem-solving and thinking skills.

Our first big challenge was putting all those skills to use in a real-world problem. Students participated in our first in-house competition called *Mystery River*. This problem-based learning scenario introduced students to a serious problem: the fictional town of Hopewell’s prized freshwater mussel population is dying out, and the town’s leading citizens cannot figure out why. The students had to take charge of the situation as they joined a task force dedicated to solving the problem. Each small group created a hypothesis about “why the problem is occurring” and created a situation based on that theory in an attempt to solve it, save the community of Hopewell and win the competition.

Students then moved on to the world of cryptography. Understanding ciphers from the time of Caesar to breaking mathematics-based ciphers such as the Affine Cipher, students really rolled up their sleeves to decode these messages. Once we reviewed a variety of ciphers, our cryptologists created their own cryptography puzzle for their peers to solve. Some of these codes were unbreakable!

In February, students took on Sherlock Holmes in *The Adventures of a Speckled Band* with the long-term substitute. After reading the story, students tackled their own adventure by writing a mystery story in a “choose your own adventure” format.

Lastly, students grouped together to compete in a multi-school competition called *World of Free*

Enterprise. The seemingly-impossible task was to create a service, market it, create a business plan, and determine the start-up financials to present to judges in an attempt to win the competition taking place mid-June. Some of the business plans entered in the competition were:

Grab n' Go: Student meal delivery service
Sorting Hoarding: Junk/Organization company
Children's Chariot: Student walking service
Hunting Healthy: A healthy recipe generator

G&T Learning Fair

On May 11th, students from the Grades 4-6 Gifted & Talented Program exhibited selections of their work at the G&T Learning Fair held in the Pierrepont School multi-purpose room from 6-7:30pm. The community turned out, with so many extended family members coming to see the great effort and work students put in throughout the year. Students were encouraged to "present" their project to their family members and guide them through the exhibits.

Parents of Grade 3 Discovery students and students who are being screened were invited to see the topics explored and projects tackled by the Grade 4-6 GT students. All were welcomed!

Note from Dr. Velechko **G&T Coordinator**

Even though formal education concludes in June, G&T students should be encouraged to read, visit museums, play games and create!

Have a great summer.



Gifted Kids
don't need
MORE
work,
they need **MORE**
MEANINGFUL
work.
- Miss Giraffe