

Investigate Inquirer

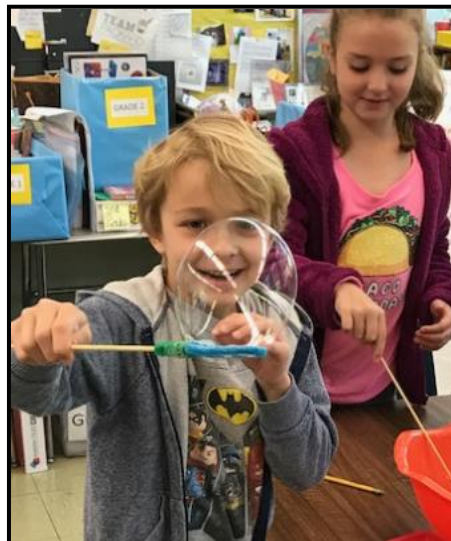
Semester 2 - June 2017

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First Grade Updates

What's the MATTER? This semester, first graders have been studying the states of matter: solid, liquid, gas. They have even learned about the fourth state of matter: plasma! They have learned how the particles of matter present themselves closely packed together or very loose. We did an experiment where we gathered particles of matter from indoors and outdoors and made microscope slides. Students viewed these homemade slides under high powered microscopes and were amazed to see what magnification power can reveal what we do not see with the naked eye. Our bouncy ball experiment was also a great lesson in the importance of carefully following step by step directions. The students not only made bouncy balls but, they conducted a variety of tests to collect data on their bounce-ability! The students also had fun using "worm goo"-sodium alginate with calcium chloride powder to make poly-worms! We culminated our Matter Unit, by experimenting with different concoctions of bubble solutions to see which solutions make the largest bubbles. The students conducted a variety of tests to measure diameter and height of our bubbles. The first graders have had a great year at Investigate!



Second Grade Updates

The second graders started this semester by finishing their terrific original inventions! After working through the invention process, they were ready to build and apply for an Investigate patent. These kids are definitely ready for *Shark Tank*!

Upon completion of our Invention projects, we began our study of Greek Mythology. Students learned what mythology is, and became familiar with the well-known Gods and Goddesses of Mount Olympus. They designed and wrote about their own original God or Goddesses (such as the Goddess of Ice Cream and the God of Legos), using a variety of art materials to create a beautiful hallway display. Together, we read a number of Greek mythology stories including Demeter and Persephone, which explains why we have seasons, Arache and Athena, which tells the story of the first spider, and Pandora's Box which shows why human beings will always have hope. Each study included a very popular student favorite – Reader's Theater play versions of the myths – in which students had the opportunity to act out these amazing stories.

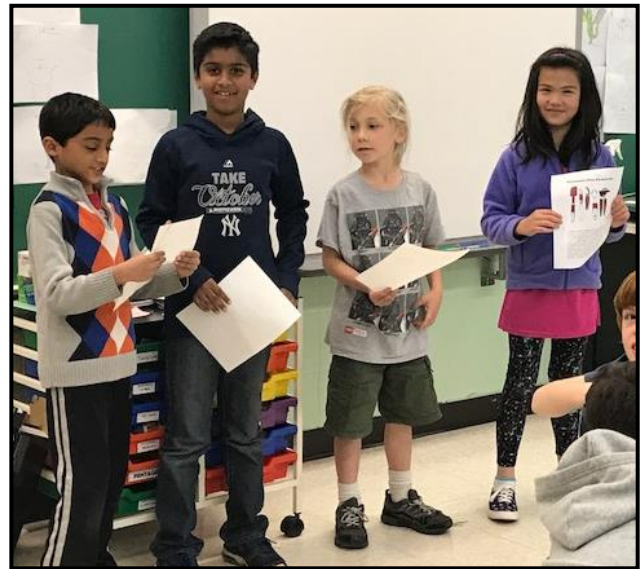


Third Grade Updates

This semester, the third grade students were introduced to the exciting world of Advertising. To kick it off, we played the “Retail Alphabet Game” and were surprised to realize how familiar we are with brand logos, even when just viewing a single letter of the name! From there, we learned about the importance of typography and how different font styles are used to convey a different image or mood.

Next, students viewed a variety of cereal boxes and determined who the intended consumer was supposed to be – kids, adults, or both. This opened up a discussion about target audience and the techniques that advertisers use to reach those who are most likely to want to purchase their product. Students then designed their own cereal brands to meet a target audience!

Additional activities included choosing a celebrity to endorse a given product, creating and pitching ad advertisement to their peers, and conducting their own focus groups at home!



Fourth Grade Updates

The fourth graders have been busy in the wonderful world of Robotics! We began our study by learning about the history and evolution of robots over time. Students also learned how robots are used in the manufacturing realm on an assembly line and how sometimes this can harm humans by making jobs less readily available. Robots in the medical field was also examined by students and they were amazed to learn that robots are used by doctors for surgery in the operating room and office. Students also learned how helpful robots are in space exploration.

The students were able to experiment with our very own mechanical arm robot in class. This, along with a computer game sponsored by Honda, allowed the students to act as manufacturing technicians and navigate through the manufacturing line, dealing with trouble shooting issues, and learning how to maintain and repair equipment.

With basic supplies, students built their very own "ArtBot"! The styrofoam cup-battery operated simple spinning robot was a great lesson in following precise electrical wiring instructions! Each ArtBot creates its very own unique and intricate swirling patterns, while it cruises around on a sheet of paper!

One of our big highlights of our Robotics Unit was the introduction of our Investigate Robots-**Dash and Dot**! Dash is a real robot that responds to voice, can navigate objects, speak, and create music. The students used the program-Blockly- designed for Dash and Dot- to navigate Dash through their own hand-made mazes.

The world of robotics is endless! In class, the students had great learning opportunities experimenting with so many different robotic variations as well as, hands-on field trip experiences. These experiences will lead them to learning more about what interests them most in the world of robotics!

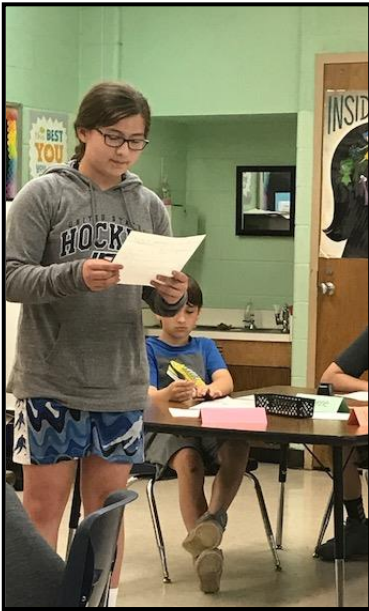
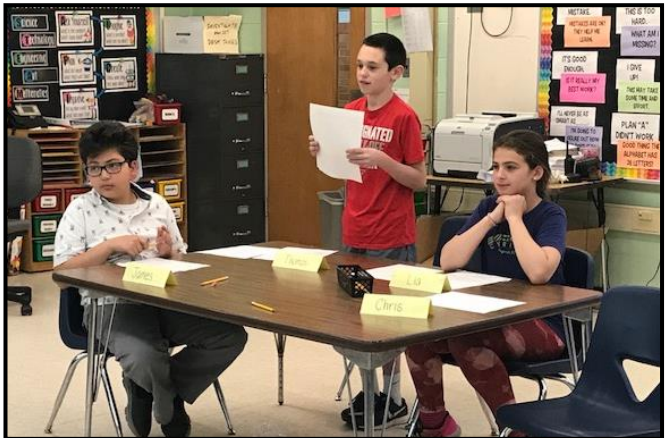
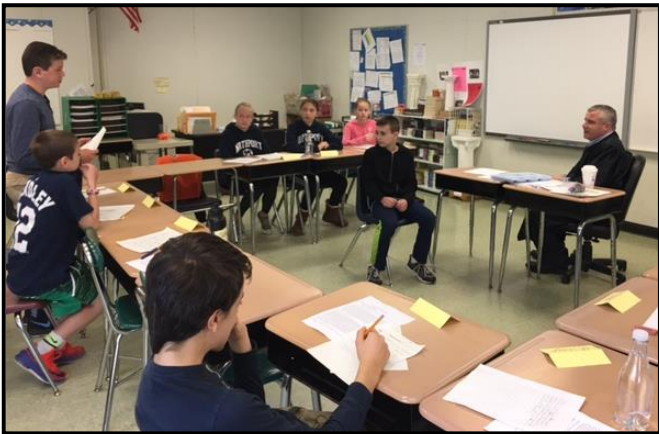


Fifth & Sixth Grade Updates

Our fifth and sixth grade students had the opportunity to work with Northport High School law teacher, Mr. David Scott, in an interactive and hands on law unit!

Students became knowledgeable about intentional torts and negligence, using case studies to guide their learning. They also became familiar with how trials are run and had the opportunity to see the NHS Mock Trial team in action (see page 10) before performing in their own mock trial! Students assumed the roles of lawyers and witnesses for the defendant and plaintiff, and used their understanding of the law to make opening statements and closing arguments, question their witnesses, and argue their case. Mr. Scott was very impressed with their ability to “think like a lawyer” and students have already expressed their desire to join the Mock Trial team when they get to the high school!

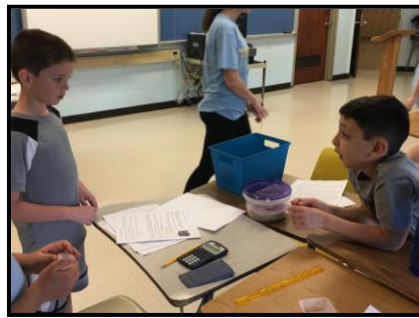
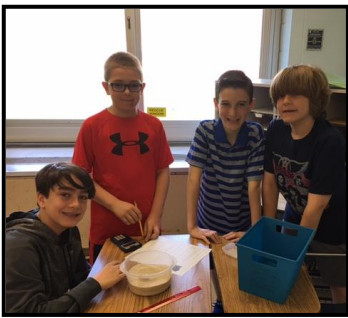
Other areas of law that were explored include contracts, workplace discrimination, copyright law, vandalism and trespassing.



STEM Challenge

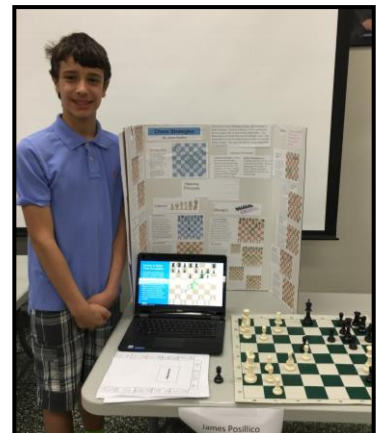
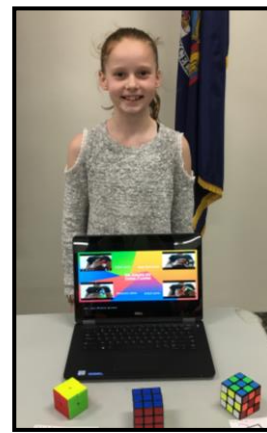
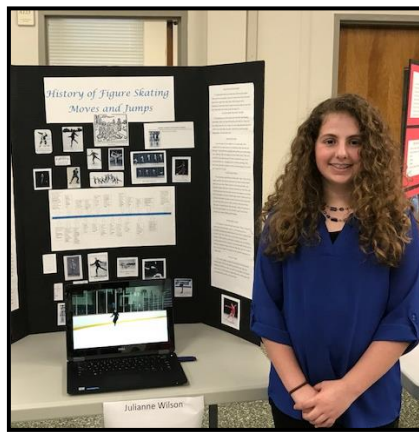
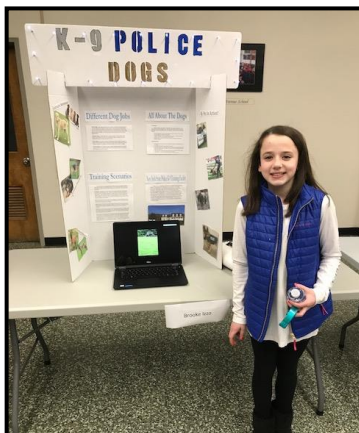
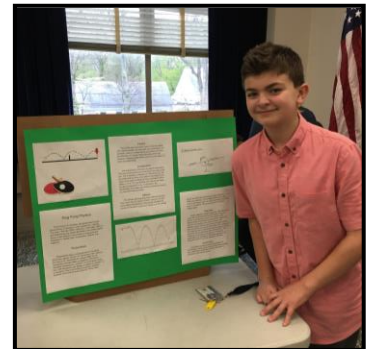
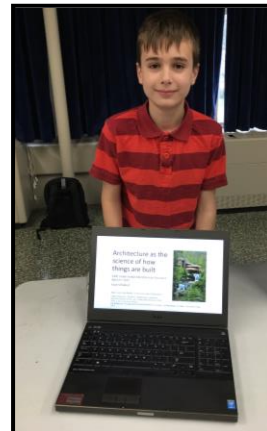


On April 29th, the 3rd **annual Team Packard STEM Challenge** event took place at Northport High School. Once again, Investigate students from 4th, 5th, & 6th grades, as well as Investigate alumni, volunteered and participated in this experience. This one day event featured science, technology, engineering, and math competitive events. Students competed in these events while also supporting and fundraising for the disease ALS.



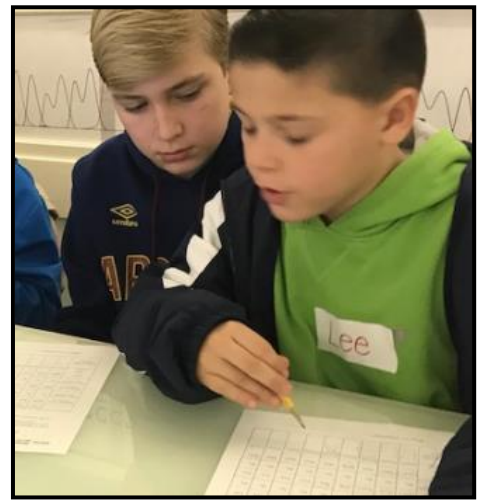
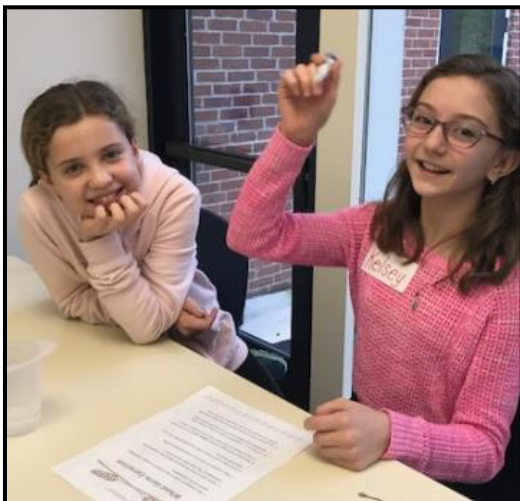
Sixth Grade Research Night

On April 27th, we had our first annual **Sixth Grade Investigate Research Night!** Students had the opportunity to choose their own topics for exploration, and came together to share their work. Everything from World War II to the Rubik's Cube was presented! Other topics included chess, hurling, Tibet, magic tricks, coins of the world and figure skating! Several students presented on the Smartboard, and others shared food from their cultures. It was a wonderful evening!



Field Trips, Workshops & Special Experiences

Our fifth grade students visited the **Dolan DNA Learning Center**, in Cold Spring Harbor, to extend their knowledge of mystery and forensics. We began our morning at the center by taking part in a hands on computer lab in which the students delved into the mystery of the missing princess Anastasia. They compared skeletal remains, handwriting samples, and mitochondrial DNA to determine if the mysterious woman claiming to be the princess was who she said she was. Next, they entered the labs and learned to extract DNA from wheat germ bacteria, as well as learn about genetic mutations by observing fruit flies under a microscope. It was a fun and educational experience for all!



To culminate our first semester study of bridges, the 4th grade Investigate students were able to have a 1-hour SKYPE session with an engineer from a private structural engineering firm, **Stantec**, located in NYC. Maqbool Mohammed, PE- professional engineer spoke to the students about what goes on with the care, maintenance and new design work of bridges right here in our tri-state area.

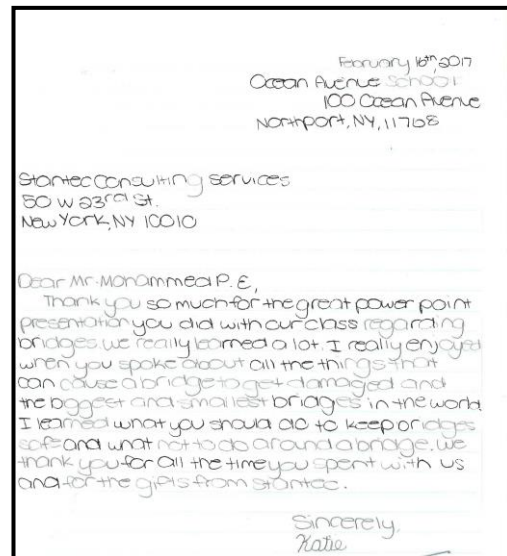
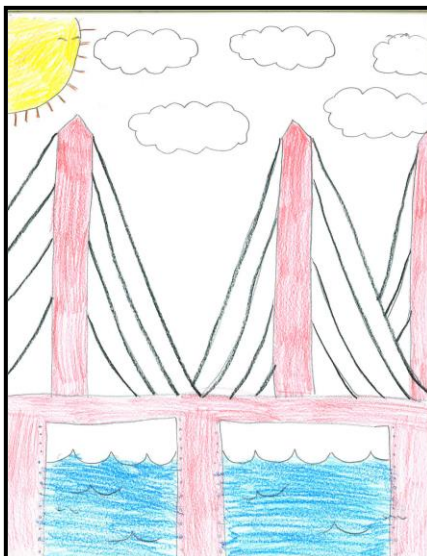
Stantec engineer, Mr. Mohammed ,explained to the students how bridges become deficient and how they are cared for in reality. This was a great culminating activity to their Popsicle bridge assignment in which they built and load tested their bridges.

In a PowerPoint presentation via SKYPE, Mr. Mohammed introduced the concept of bridge inspection work to the students, as well as, the meaning of low clearance bridges. He also educated them on the need for tolls on bridge crossings and how those fees are used to pay for the costs of inspecting and maintaining our own area bridges.

Mr. Mohammed quizzed the students about what the longest and smallest bridges are, and also showed them videos of vehicles crashing into bridges and how engineers identify damage to a bridge.

The response from students was filled with enthusiasm and curiosity. Mr. Mohammed received personal and topic-related questions such as: how much money does it cost to maintain bridges, what is your favorite bridge, did any bridge you ever inspected collapse and can you be an engineer if you afraid of heights?

Mr. Mohammed could tell there was great interest from the students and possible desire to become bridge related civil engineers in the future. Stantec hopes to facilitate future presentations in-person at the school, with mini workshops where the students can complete some hands-on bridge related activities.



The fourth grade students visited **Northport High School** to meet with the **Robotics Team**, the student officers, and the club advisor, Mr. William Claps! The students were able to go behind the scenes to see the workshops and computer programs the high school students use to create their robots and get them ready to compete! They even had the opportunity to control the movements of a robot that the team used in competition!





As part of our Law unit, 5th and 6th grade students had the opportunity to see the **NHS Mock Trial team**, led by NHS teacher Mr. Dave Scott, in action! The high schoolers visited our 5th grade classes at Ocean, while the 6th graders headed over to NHS. All the students enjoyed playing jury and viewing an exciting negligence case play out before them. They had the opportunity to chat with the high schoolers and learn more about the law classes at NHS.

Thank you, NHS Mock Trial Team!





Our 5th and 6th graders also had the amazing opportunity to visit the **Central Islip Federal Courthouse**! While on this trip, students were able to tour the impressive building, meet with the honorable judges, Judge Joseph Bianco and Judge Kathleen Tomlinson, learn about the history of the courthouse, and even see a real member of the K-9 squad – Kara, the gun powder sniffing dog! Fifth grade student, Joey (a.k.a. Charlie Bucket), was arrested for stealing Pop Tarts as part of a mock trial. Students were treated to a bagel lunch in the courthouse cafeteria, and each received a gavel pencil as a memento. It was a wonderful experience!

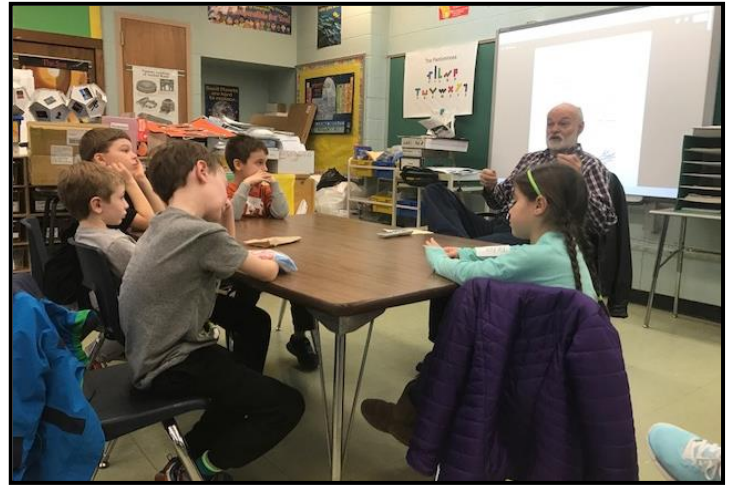




The fourth grade Investigate students had a great visit to the **Cradle of Aviation**, where they participated in two hands on robotics workshops. In Bot Building, the students had 50 minutes to build and create a robot using Lego NXT Robotics Kits. Student teams worked together hands-on to format and learn the engineering design process by putting together the robot and then programming it to do various functions. In the iRobot workshop, students learned about how engineers model robots after humans in the real world and how challenging this could be due to the complex systems humans use to complete tasks. In hands-on experiments, students compared the essentials needed to engineer a robot like a human. In the shoe tying activity, students were asked to tie their shoes with pliers simulating a robotic arm effect. The students found this quite challenging!



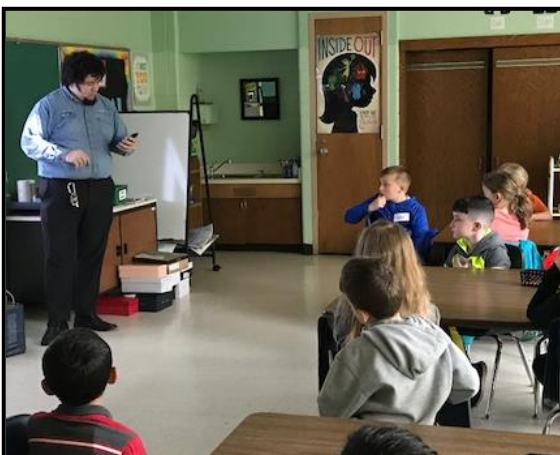
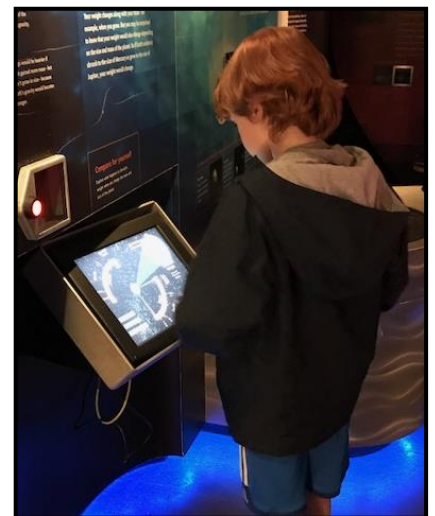
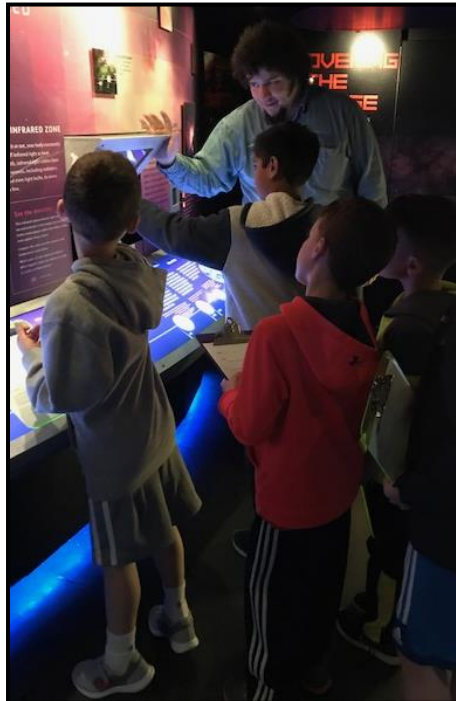
For the second year, our second graders had the terrific opportunity to be visited by a local inventor who lives right here in Northport! **Mr. Joseph Merenda** holds a patent for his invention – The Tree Guardian. The Tree Guardian is an ornament that plays music to alert you that the water level on your Christmas tree is low. The students were able to learn about the invention and patent processes from Mr. Merenda's expertise and had the opportunity to ask him questions. What a great experience it was!



The Vanderbilt Planetarium brought a hands-on field trip experience to our 3rd grade Investigate students via a 37 foot recreational vehicle that was converted into a **mobile classroom**. This field trip helped enhance our study of Earth & Universe that we studied in the first half of the year.

The traveling classroom consisted of five stations that offer hands-on interactive exhibits that engaged students in the following topics: exploring light, telescopes, digital imaging, 3-D universe, and gravity.

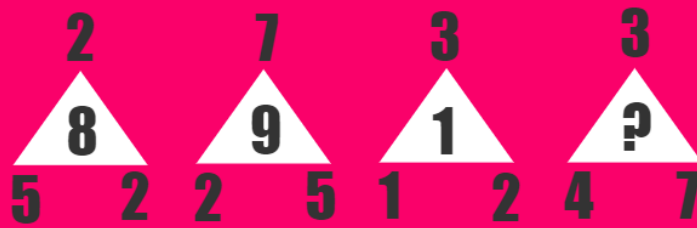
Studying these five topics helped students understand how astronomers acquire knowledge about the universe. Small groups were able to visit the traveling classroom just steps from Ocean Avenue School, while the other small group had contact time in our Investigate classroom learning background knowledge to the five stations on board the traveling classroom



Brain teasers & Riddles

Can you find the
the mistake?
1 2 3 4 5 6 7 8 9

What number fits into the
last triangle?



What Two
Things Can
You NOT Have
For Breakfast?



Answers:

Upper left: the is written twice

Lower left: 5 (top number multiplied by left number, minus right number)

Right: lunch and dinner

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