Cranbrook Robotics

Summer Camp Newsletter

Week Four 7/12 to 7/16

Dear Parents,

Here we are at the end of week four. The summer is flying by! We are over halfway through the six weeks of camp we offer. It is great to see returning faces and see the love for robotics they show day in and day out. We are pleased to welcome new faces and see sparks for the love of robotics. New and returning campers wowed us with their focus, concentration and perseverance. Campers followed detailed instructions to build a robot to specific specifications, then had an opportunity to put their imagination to work making a robot of their own design. The 4th to 7th grade Vex IQ robotic students had a chance to visit the natatorium for a much-needed swim on Tuesday, followed by the 1st grade Lego WeDo and 2nd to 3rd-grade Boost groups on Wednesday. When weather permitted, campers had an opportunity to hike a part of our beautiful campus. While we are unfortunately not able to invite parents into our buildings this summer for our traditional Show and Tell on Friday afternoons, we have included various pictures and stories about our exciting week in this newsletter.

Gratefully,
The Robotics Summer Camp Team

Want to Purchase the Kits We Use?

Lego WeDo 2.0
https://education.lego.com/en-us/products/lego-education-wedo-2-0-core-set/45300

Lego Boost Creative Toolbox
https://shop.lego.com/en-US/product/BOOST-Creative-Toolbox-17101

Vex IQ Super Kit
https://www.vexrobotics.com/228-2500.html

4th to 7th Grade Vex IQ

Summary

Our Vex IQ instructors, Mr. Elmer, Mr. Daniel, and Ms. Aishwarya, have been looking forward to a great week of camp! All campers made this week exceptional, as everyone learned how to construct and program their robots for the Vex IQ competition. While a few students came in with prior knowledge of Vex IQ robots, most were newly introduced, and each individual rapidly grew their understanding. Campers also enjoyed swimming at the Natatorium, a hike to the Kingswood Campus, and a dress rehearsal performance from the theater camp at the Greek Theater.

This season's competition is called “Pitching In.” The game’s object is to attain the highest score by scoring Balls in Goals, clearing Starting Corrals, and hanging at the end of the match. Campers could build a robot from instructions, called “Fling,” a new design called “Campbot,” or create their own design. Robots were programmed using a graphic software called Robot Mesh Studio.

Vex IQ Reflections

Eli decided to try a "Campbot" style robot and was quickly able to demonstrate high scores. He then added a second joint to the arm to enable it to high hang.

Arav built a robot with an extra arm that can keep balls from rolling away.

Avyay built his robot with a longer arm for greater reach.

Nathan built a robot that was instantly recognizable from its blue-colored tower.

Krishna experimented with different front shovel designs on his robot.

Julian put all the features possible into his robot, including a double pivot arm to do the high hang, an intake to help take in balls and a lift for the intake to get it out of the way when needed.

Seif worked on several improvement ideas, including a faster gear ratio for the base. He spent a lot of time learning how to drive it and programming it to score autonomous points.

Jacob continued to work with his robot with a linear lift that used rack gears and a pivot arm to the lift, which enables it to do a high hang.

Ishan added an intake device to keep balls from escaping. After some testing, he decided that he liked the robot better with an opened front end design.

Will added an arm to his robot and modified the chain drive to power all four wheels.

Michael modified his robot from the previous week and added a claw, creating "Tank Mk IV." Micheal also impressed everyone with his drawings of high-performance cars.

Alex built a dumper-style robot that intakes balls into a bin, carries them to the low goal, then dumps them out the back of the robot.

Jude built a robot with a front loader that picked up balls and then dumped them into the goal. He then decided to go in a completely different direction building a humanoid robot called "Ike."

Simon continued to use his "anti-virus" robot and added a claw called "handcuffs."

Asher built a Campbot and made sure that the controls were configured to his liking.

Dorian built a Campbot, then added motors and gears to the shovel to create claws on both sides to hold the balls in.

Dominic built a Campbot, then worked on ideas on improving it, including modifying the arm to enable it to do a high hang.

Rocco built a version of Fling and tried it out, then decided to build a Campbot with Dominic's help. He then added a second arm joint to enable it to do a high

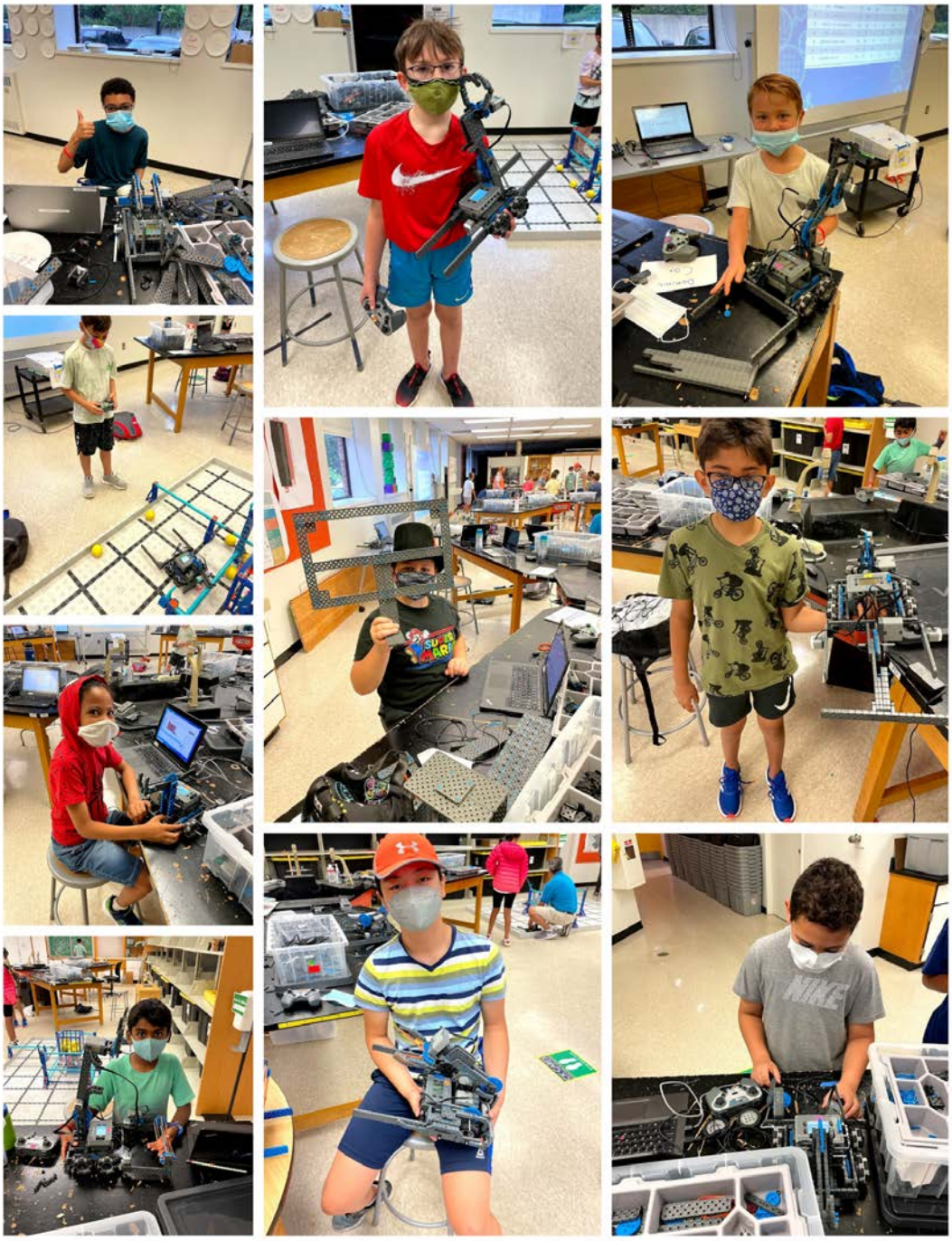
hang. Rocco showed off his coding ability by programming his robot to clear the corral and push the balls into the low goal.

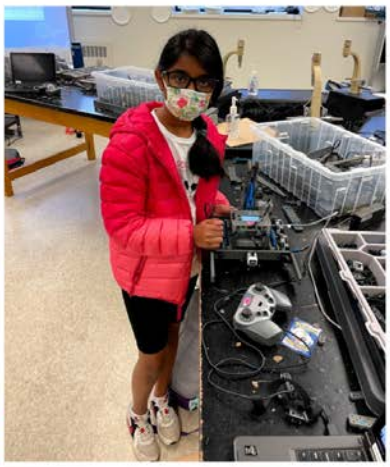
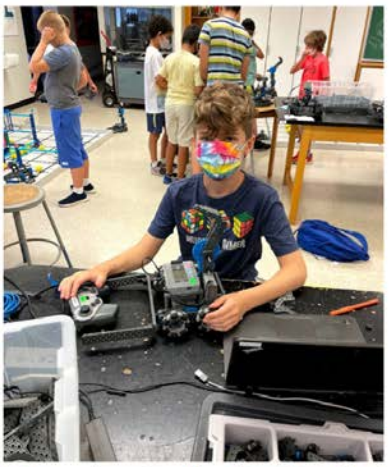
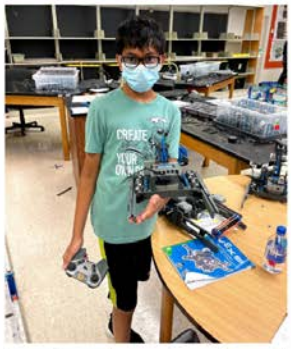
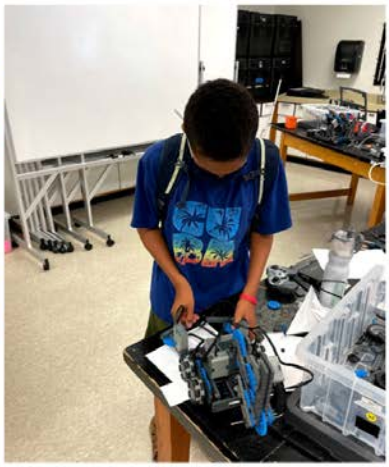
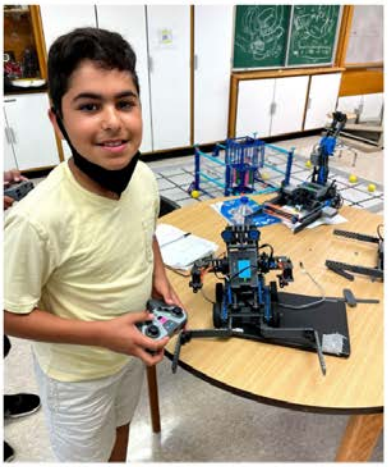
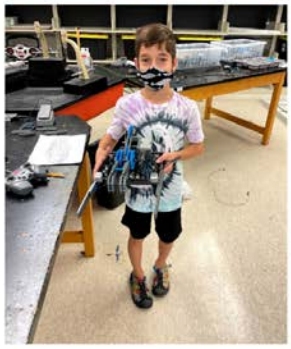
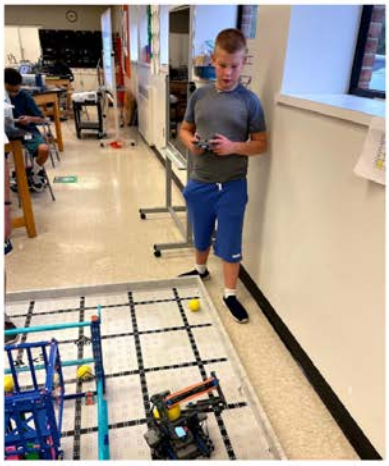
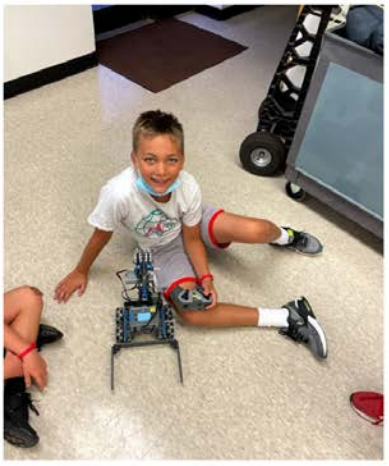
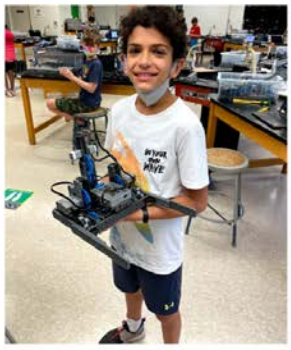
Christian built a robot with a hanging arm, then added a claw to grab balls.

Edward added an array of LEDs to his robot, which he aptly named "LED Lord." He later added an intake roller to help gather balls.

Aalaya built a Campbot and quickly jumped into programming. She put in hard work preparing for the competition.

Vex IQ Photos



2nd to 3rd Grade Lego Boost

Summary

Lego Boost Creative Toolbox guides campers through the building and coding of fun, interactive robotics. This week's campers were particularly creative with some project ideas. They were also energetic and excited whenever we went outside for a snack, to play ball, or on a hike around campus. We also finished off the week with an optional battlebot tournament that combined the kids' love for competition with their natural talent at robotics. This week's instructors were Mr. Ben and Mr. Avaneesh.

Lego Boost Reflections

Antony was a great camper to have this week. He built a Lego boost cat robot and also created a plethora of toys for the cat. Although he was quiet this week, he was still attentive and it was clear that he really enjoyed this camp.

Yarik got to a quick start, building a door that was activated by a vision sensor, which shows that he has great command of the Lego boost parts. He also was a friendly personality, always helping out others when they asked. We enjoyed his presence and are sure he had a fun time this week.

Noa continued to build the Lego boost cat robot this week. She enjoyed our arts and crafts periods as well. She also used her knowledge from building her robot last week to further accelerate the building of her cat. We are excited for her to come back next week.

Isabel built the Lego boost cat robot this week. Along with that, she enjoyed our other activities like playing soccer and doing arts and crafts. All in all, she was great to have and we are sure she enjoyed this camp.

Edison got off to a somewhat slow start, not finding the motivation to build and getting hit in the head playing soccer. However, he bounced back immensely, building his Lego boost tank robot in record time. Even after

some ups and downs, he still definitely improved as a roboticist and had a great time at this camp.

Henry built and added different modifications to his Lego boost tank robot this week. He continued to show improvement, especially when finding pieces in his box. He also enjoyed swimming in the pool and going outside. We are excited to see Henry again next week.

Hadi has done a lot of things, like playing soccer, building multiple robots, learning how to use driver control, and much more. I have really enjoyed his stint at this camp and we are sure he has too.

Karim was a great camper to have this week. He especially enjoyed our activities such as swimming and soccer, but he seemed to be quite interested in robotics as well. All in all, we enjoyed his presence at camp and we are sure he had a great time here this week.

Aya was another camper who was great to have this week. She built the Lego boost tank robot this week. After making some mistakes following the instructions, she came back strong, putting her own twist to the design. We enjoyed having her this week and are excited to see her return next week.

Bram spent this week developing both his build and programming skills. He added an impressive gear ratio to his windmill, making it 8x faster. He then went on to design and build a security box, incorporating impressive programming and sensors. I look forward to having Bram again next week.

Jonas, as always, was hard at work this week perfecting his battlebot in an attempt to win the tournament this week. He refined the bulldozer to be heavier and produce more torque while driving. Although new campers come every week, he makes new friends and is a great participant. I look forward to having him again next week.

Sena is an incredibly well behaved and hard working camper. She chose the robot as her boost project this week, and was able to finish and begin programming it. She is a joy to have in class and has made friends with some of the other campers we have here in robotics.

Leland spent this week working on building the bulldozer. He had a lot of fun, collaborating with classmates and helping others build their own robots. He also took interest in battlebots, both watching and participating.

Ivan spent the week building a cat as his boost project. He works hard, but also takes some breaks to play with friends, like Lenox. He is never disruptive, and was a joy to have in class this week.

Lenox tried to start building an instruction based boost project, he quickly adapted to create his own robots. He had a blast playing soccer and is a very good worker.

Samuel is a very enthusiastic and excited camper, ready to participate in every activity. He chose a cat as his boost project, and was able to get most of the way through before losing interest and wanting to fight with battle robots. I look forward to having him next week.

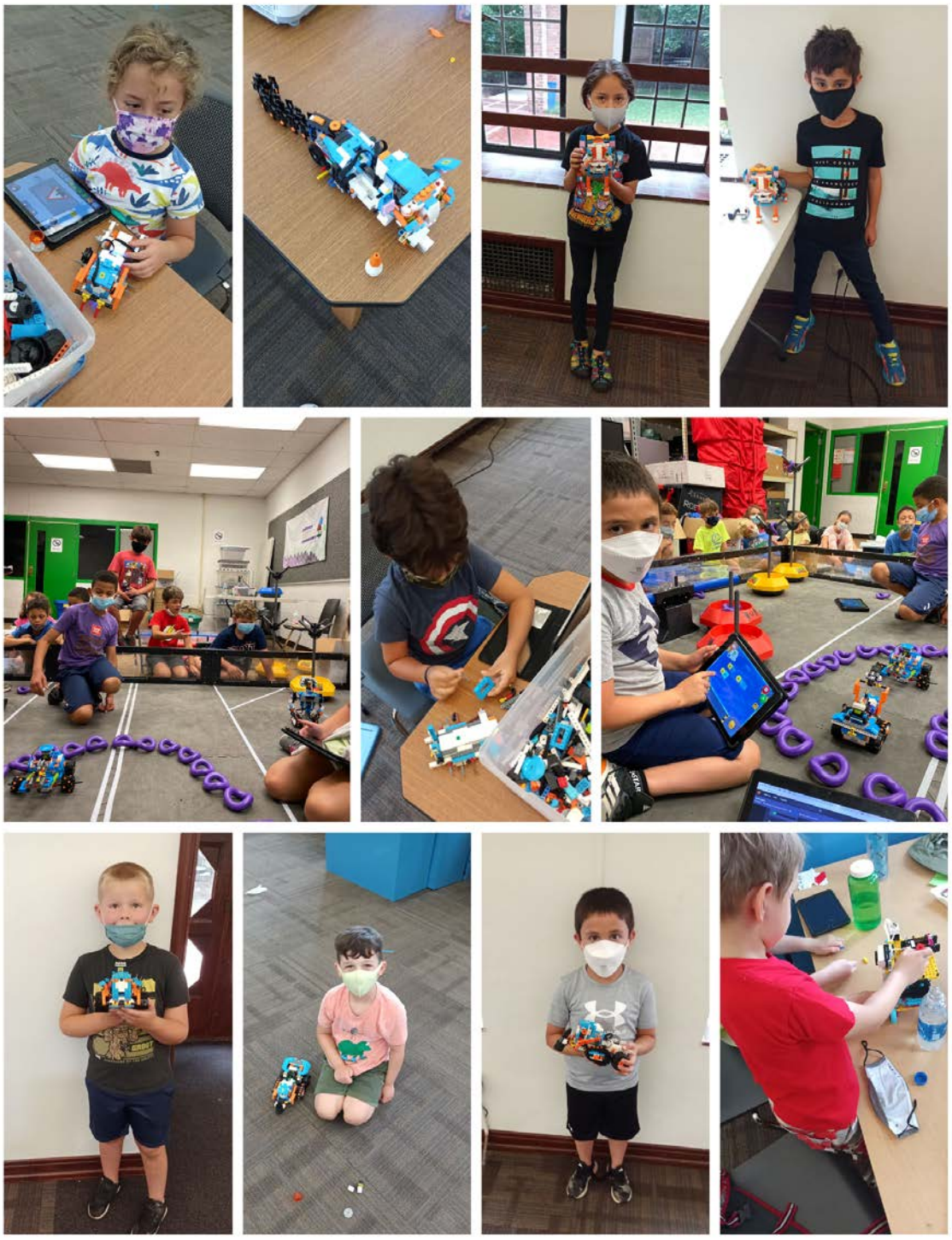
Dylan spent the week building the robot as his boost project. He was able to finish it impressively quickly, and go on to drive and program it on thursday. When in the classroom, he is a hard worker who is also ready to run around and play when we go to snack.

Marco experimented with a few different boost projects this week. Although he started the manufacturing robot, he quickly took it apart and experimented with the motors, parts, and sensors for the rest of the week. Marco was a pleasure to have in class.

Valentina chose the robot as her boost project this week. Although she needed some help finding parts and putting some together, she persevered and was able to complete the robot and compete in our friday battlebots tournament.

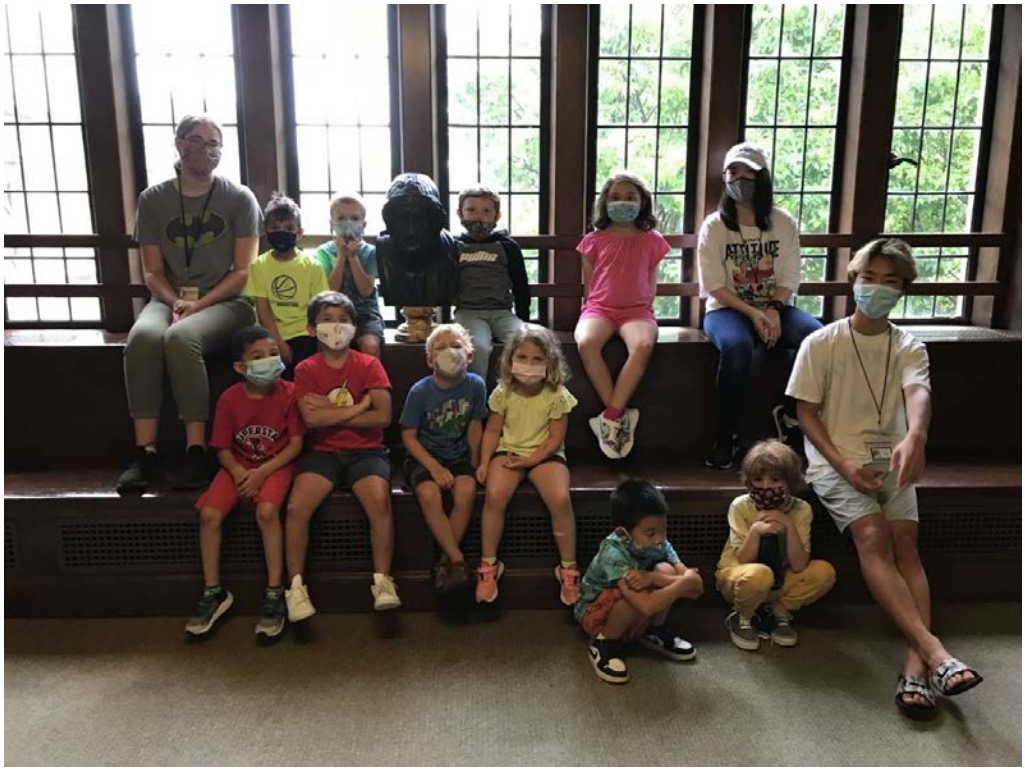
Jake chose the robot as his boost project. He is a hard worker, and was able to complete it and begin programming by the end of wednesday. He was a good listener and a pleasure to have in class this week.

Lego Boost Photos



1st Grade Lego WeDo

Summary, Reflection & Photo



Week 4 in WeDo was a blast. Time flies when we are having fun. This week counselors Ms. Emma, Ms. Lily, and Mr. Ian introduced the new campers to WeDo and broke out the art supplies.

Monday: As usual the new campers started out the week by building milo rovers in order to get used to the way WeDo works. Meanwhile, Addison built a frog and then modified it to be the fastest possible. Later, Teddy built a raft out of legos which featured a little flag. It went along with an origami boat from Ms Lily.

Tuesday: Using his boundless creativity, Miles built a pull machine from scratch that pulled a different robot. Finley and Khaled saw how cool Addison's frog was and wanted to build frogs of their own. Jameson built a little satellite that spun in a circle.

Wednesday: Grant built a mario out of legos to go with all of his drawings and Colton crafted a dragon to face off against the italian plumber. Keanu built a “spinny robot” and a robot to fix other robots with a clever gear system.

Thursday: Jacob joined with some boost kids to create a paper airplane army! The campers worked on building fun and imaginative new projects. Some built super-fast race cars and others made trucks and other equipment.

Friday: The last day of camp was a blast for everyone. The campers made countless amounts of paper airplanes of all shapes and sizes. Their projects got even more creative and imaginative than before, featuring a wide variety of mechanisms and creations.