

WEEK SIX

Cranbrook Robotics Camp

July 30, 2021

Dear Parents,

We are at the end of our 2021 robotics summer camp. Over the past six weeks, a couple of hundred students have been exposed to the process of developing robotics. A few students have spent the whole summer with us, others a few weeks and some a single week. No matter how much time they spent with us this summer, we hope that students have a newfound appreciation for how they can put their imagination to work and build something new. In each camp, campers followed detailed instructions to build a robot to specific specifications, then had an opportunity to use their creativity to make a creation of their own. The fourth to seventh-grade Vex IQ robotic students had a chance to visit the natatorium for a much-needed swim on Tuesday, followed by the first-grade Lego WeDo and second to third-grade Boost groups on Wednesday. When weather permitted, campers had an opportunity to hike 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. The next page includes links to purchase the kits we used this summer if you want to continue your exploration of robotics!

Gratefully,

The Robotics Camp Team



[Buy Lego WeDo 2.0](#)



[Buy Lego Boost](#)



[Buy Vex IQ](#)

SUMMARY

4th to 7th Grade Vex IQ

Our Vex IQ instructors, Mr. Elmer, Mr. Daniel, and Mr. Emerson have been looking forward to a great week of camp! All of the 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 and a hike through the Cranbrook campus.

This season's competition is called "Pitching In". The object of the game is to attain the highest score by scoring Balls in Goals, clearing Starting Corrals and by 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

Aili built a robot and worked to learn how to drive it and score balls.

Avi explored a number of ideas. He built a robot with a fast 5:3 drive ratio and added a rack mechanism to the front forks that enable them to close.

Christopher worked on several ideas, including a second arm joint for doing a high hang. He also incorporated a piece to trap balls into the arm.

Ethan made several revisions to his robot to improve performance and keep parts from coming off during competition.

Knox spent time testing his robot and working on improvements to the arm.

Nathan Becker focused on enhancements to the robot arm, including changes to enable a high hang.

Nathan Tennenhouse reinforced the frame of his robot to help keep it together and handle the load from its extended arm.

Roshen worked on several concepts, including extra wheels to provide a sideways motion and an intake roller for capturing balls.

Zach built a robot and worked on different ideas for the arm. He added a LED that could display a variety of colors.

Ryan also focused on improvements to his robot arm, adding gears and a motor to allow it to do a high hang.

Aalaya continued improving her Campbot. She added a claw that can grab balls.

Graham continued working on his robot from last week. He practiced doing a high hang efficiently.

Avyay also continued with his robot, which has a longer arm for greater reach and a double joining for doing a high hang.

Krishna decided to continue developing his robot from the previous week. He extended the arm and added a claw.

Ishan continued working on his robot from last week, one that has a double-jointed arm and can do a high hang consistently. He also helped other campers practice and learn the keys to the game.

Will carried over his robot from last week, which has an arm for hanging and a chain drive to power all four wheels.

Michael modified his robot from the previous week. His final design is aptly named “Tank Mk VI”.

Alex continued with his robot from last week. He spent time optimizing his strategy and put up some impressive skills scores.

Simon continued to use his “anti-viris” robot, renamed “yummybot”. He used the robot to show others how the game is played.

Victor built a robot with a chain drive and a hanging arm with a fast 1:5 gear ratio.

VEX IQ PHOTOS



SUMMARY

2nd to 3rd Grade Boost

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.

BOOST REFLECTIONS

Antony: Antony worked on a lego boost guitar robot this week. He definitely improved his building skills from last week, as he finished his robot very quickly. He also loved playing his guitar with his friends and customizing his guitar. He has been a great camper to have these past weeks.

Augustus: Augustus spent the week making creative robots. His favorite robot was one that he spent a lot of time working on and playing with this week. He also enjoyed playing outside with the friends he made these past few weeks. All in all, it was a pleasure to have him at camp.

Avi: Avi built a lego boost guitar robot this week. He also loved recess and swimming with his friend, Vyan. He also worked on building another robot for our battlebot competition at the end of the week. Overall, he has been a great camper this week.

Aya: Aya continued to work on her lego boost tank robot this week. Apart from that, she liked the arts and crafts section of the camp, especially making origami. She has been a great camper these past few weeks.

Evan: Evan spent the week working on a lego boost cat robot. He also enjoyed recess and swimming in the Cranbrook Natatorium. After finishing his robot, he also enjoyed the arts and crafts part of camp. Evan was a pleasure to have this week.

Henry: Henry worked on another battlebot this week. He used his experience with his past lego boost designs on this one, using a part of a robot he built before on his battlebot. He also really enjoyed running around in recess and swimming in the Cranbrook Natatorium. All in all, he has been a great camper these six weeks.

Kameryn: Kameryn continued to work on her lego boost cat robot this week. Although her robot broke a couple of times, she showed great perseverance, rebuilding her robot every time. She also enjoyed making origami during our arts and crafts section of the camp. Overall, she has been a great camper these past few weeks.

Owen: Owen spent the week working on a lego boost guitar robot. He also really enjoyed swimming at the Cranbrook Natatorium. After finishing his robot very quickly, he also helped others and started building a different robot. All in all, it was a pleasure to have him at camp.

Peilan: Peilan worked on a lego boost manufacturing plant robot. It was clear to see she was very talented at building, finishing her robot without much help at all. She also enjoyed playing with her friend, Angela, during recess and swimming. Peilan was a pleasure to have this week.

Sophia: Sophia spent the week finishing her lego boost cat robot. She also enjoyed the arts and crafts section of the camp, along with swimming at the Cranbrook Natatorium. Overall, she has been a great camper these past two weeks.

Vallencourt: Vallencourt worked very hard on some creative projects this week. He built a battlebot, utilizing lego boost parts in interesting ways. He was great this week and it was a pleasure having him.

Vyan: Vyan worked on a lego boost guitar robot this week. He showed exemplary building techniques, finishing his robot in record time. He also enjoyed swimming and recess with his friend, Avi. Overall, he was a great camper this week.

Angela: Angela chose the manufacturing plant as her boost project this week. This is one of the most advanced projects available, combining complex building as well as programming to ultimately make a robot that can put together a small lego on its own. She took this challenge in stride and completed it in just 3 days. Angela was a pleasure to have in class this week.

Bram: Bram spent the week designing and a catapult using the lego spike parts. Over the past 6 weeks, he has demonstrated that he has both design and programming capabilities, unlike any other camper we have had. I personally feel Bram has a bright future in robotics and engineering if he chooses to continue.

Bruno: Bruno started this week off by building the robot as his lego boost project. However, halfway through the build he changed his mind and shifted gears to building a battlebot to compete in the Friday tournament. Overall, he showed good design and engineering skills while always being hard at work.

Hassan: Hassan spent the week building a bulldozer as his lego boost project. He is a hard worker and was able to complete it in just a few days. He then went on to program and practice driving it in preparation for today's battlebot tournament against his fellow classmates.

Ivan: Ivan spent this week collaborating with friends on a variety of projects, from building the boat we floated in the river to making battlebots. Ivan was always ready to run around and play with his friends at snack but also was able to calm down as soon as it was time to get back to work. He was a pleasure to have for the past 3 weeks.

Jonas: This week, Jonas continued his pursuit of making the best possible battlebot. He continuously battled his classmates, searching for ways to improve his own designs. Overall, he has been an excellent student for the past 6 weeks and is always energetic when we go out for recess.

Lenox: Lenox spent this week experimenting with different battlebot designs in anticipation of the Friday battlebot tournament. He demonstrated good use of the engineering process, building, testing, and redesigning his robots to make them as strong as possible.

Massimo: Massimo chose the guitar as his lego boost project this week. He got right to work, completing the build and moving on to programming the distance sensor to play different notes based on how the slider moved. Overall, Massimo has been a great camper this week.

Olive: Despite the late start, Olive got right to work building the bulldozer as her lego boost project. She has been a persistent and dedicated worker throughout the week, and was able to complete it in just 3 days. She was always quiet and respectful to all of the counselors. Olive was a pleasure to have in class this week.

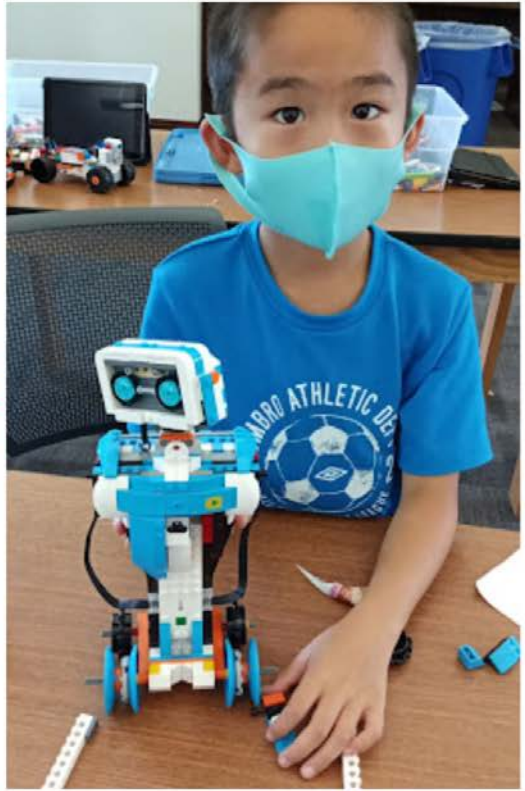
Sam: This week, Sam built a variety of projects, including a catapult. He is always very energetic and has made many friends over the past 3 weeks. When focused and on task, Sam is a great student.

Shannon: This week, Shannon chose the guitar as his lego boost project. Despite some early troubles finding parts, he was able to persevere and finish the project before beginning a battlebot that he is excited to use today in the tournament. He was always respectful and a pleasure to have in class.

BOOST PHOTOS



Sp Adobe Spark





SUMMARY & REFLECTIONS

1st Grade WeDo

The final Week of Robotics camp is over and it has been a great summer. Counselors Mr. Ian, Miss Lily, and Miss Emma had a great time this week teaching your campers about the beginnings of robotics using the Lego WeDo app. On Monday the new campers all built milo rovers to get themselves started and the returners jumped straight into their own projects. Other activities this week included lots of arts and crafts, outside time during snack and lunch, and swimming on Wednesday.

Ethan loved building his party snails this week. He made one small one out of WeDo then a large one out of boost parts. **Miles** had fun building battlebots and finding people to compete with all week. **Jameson** built a frog that Miss Emma helped him modify to go supersonic speeds. **Victor** was a master builder this week completing a helicopter and racecar to name a few. **Morgan** had a great time building the rover on Monday. **Grant** once again flexed his creativity by drawing all the super smash characters. **Max and Henry** worked together all week to build their milos and then to build race cars and battlebots. **Matthew** expanded on the standard wedo windmill to make it blogger and better.

WEDO PHOTOS

