

# Cranbrook Robotics Day Camp Newsletter

7/19/2019



Dear Parents,

The campers had a great week in our air-conditioned lab this week building, coding, and enjoying each other's company in robotics camp! The instructors guided them through a series of project ideas and the campers came up with some very creative designs and projects themselves! Some campers have a keen interest in coding and CAD while others love the hands-on building and mechanical design challenges. The campers visited the Science Institute on rainy Tuesday and cooled off in the pool at the Natatorium on Wednesday. The campers are looking forward to sharing all their cool projects with you at the Show & Tell this afternoon!

Please note that there are four different robotics groups this week. The different groups all have different Show and Tell programs planned in different locations. This is the last week of our WRO EV3 camp. We wish our WeDo campers the best of luck in the Michigan qualifying tournament tomorrow. Teams will have a chance to qualify for Nationals in California in September where winners in the elementary and junior divisions will have a chance to represent the USA in the World Championships in Hungary in November! Good luck to all our amazing World Robot Olympiad teams!

We are asking ALL parents who are able to attend the Show & Tell this afternoon to please park in the [550 Lone Pine Road](#) parking lot. Signs will be posted on campus and on Lone Pine Road to highlight the route. Camp staff will direct you to the proper location of your specific child's robotics group once you park in the lot.

*Parents with children in the Vex IQ (4th-7th grade) group will be directed to the [Performing Arts Center](#) (PAC). Please plan to arrive at 2:30 when the exciting finals are scheduled to begin. Winner award certificates will be presented at the conclusion of the tournament!*

*Parents with children in the Lego WeDo (1st grade) and Lego Boost (2nd and 3rd grade) groups will be directed to the appropriate classrooms located in the Robotics Lab in [Hoey Hall](#). Please plan to arrive at about 2:45 to meet your child's instructors, see your child's camp room, and to hear about your child's awesome robotics projects!*

*Parents with children in the Lego EV3 (1st-7th grade) group will be directed to in the [Gordon Science Building](#). Please plan to arrive around 2:45 to meet your child's instructors, see your child's camp room, and hear about your child's progress as they prepare for the WRO competition on July 20<sup>th</sup>!*

*For those parents not attending the Show & Tell, please follow normal pick-up procedures.*

**Next Week's campers:** For returning campers, please wear your camp t-shirts on Tuesday for the group picture and bring your swim suits and wristbands (if your child has one for passing the swim test) on Wednesday. We are excited to meet all our new campers in Vex IQ, Lego Boost, and Lego WeDo next week as well as spending more time with our awesome returning campers!

**Thank you to all our Week 5 campers for sharing your summer with us at the Cranbrook Robotics Day Camp! Below is a summary of the four robotics classes we had at camp this week:**

# VEX IQ



We started off the Monday and week introducing our new campers to this summer's VEXIQ challenge Squared Away. The game involves scoring cubes on platforms or in corners and scoring balls in cubes. Instructors Ms Ilina, Mr Nikhil, Ms Emma, and Mr Jason helped campers build well designed robots and increase their overall robotics knowledge. New campers split into teams to start robots and returning campers found their previous robots and either started from scratch or began improvements.

On Tuesday, we all went on a trip to the Science Museum and saw many interesting exhibits such as the new traveling exhibit about dinosaurs. When we got back, **Heer**, **Samatha** and **Sophie**, and **Anika** scrimmaged a lot to get their strategies down and perfected for the game. They did so well that they were able to consistently put up 90 or more points each match. **Nikhil**, a veteran camper, experimented with different robot builds and codes that interested him, such as the kiwi bot with 3 wheels and a minibot with 2 wheels. **Devon** finished his completely autonomous program that can consistently get 20 points by scoring a cube on the low platform.

Our campers were so excited to swim at the Natatorium on Wednesday. After the campers splashed in the pool, they returned to the lab to build and code robots. Returning camper **Jackson** teamed up with new campers **Alex** and **Jameson** to build a

two-bar robot. They spent a lot of time practicing driving to make sure they were ready for Friday's tournament. **Hangyul** and **Kevin** used their robot from last week, a four bar with a tread lift on the back in order to pick up 2 cubes and practiced new driving strategies to make their time more effective. When the campers needed a break from robots, they turned to scratch, a fun coding website that lets you create pretty much whatever you want. Many campers this week started to code interesting games, but they were not pulled away from robotics for too long.

Thursday, **Andrew**, **Josif**, and **Charles** finished their bots, four bars with hooks on the end to pick up cubes. **Maryam**, **Rylan**, and **Ethan** wanted to add a special touch to their robots by attaching and coding flashing colored led lights. The VEXIQ room really lit up because of these inventive campers. **Bade** originally built a claw bot, but when that design showed obvious flaws, he persisted and repurposed it into a two bar lift. **Anthony** and Hangyul joined Nikhil in building 2 wheel mini-bots with various attachments. Before long, there was a pack of robots speeding around everyone's feet.

## Lego Boost



Lego Boost Creative Toolbox allows our campers to build and code fun, interactive robots. This week's campers had a great time and made some amazing projects with the help of their instructors Mr. Daniel and Ms. Suba!

### **Here are some of the week's highlights from our awesome campers:**

Isaac: Isaac has been a great camper this week. He loves to do custom robot car designs during our work time and he listens well while we are transitioning to other activities. Isaac always stays with the group and causes no trouble. He is a great role model for the other campers.

Assad: Assad is a lot of fun to have added to camp this week. He is working hard on his unique Lego build, but he also liked spending a lot of time helping his little brother in the WeDo room. It's very nice to see such a close bond, and Assad is very respectful of the instructors in both rooms.

Caleb: Caleb continues to be a high energy presence at camp. He loves to run around and let loose during break. He also still is very affectionate towards his custom car. He is always thinking about what to add next and how to make it look cooler. When the instructors are able to successfully transition him into a new activity, he's full into it. Caleb is a lot of fun and with only a week left after this we hope he had a great time at camp as the end approaches.

Simon: It's great to have Simon back this week. He's doing well with his new group of classmates and he is working hard to make the guitar this week. He continues to be an easy-going, fun camper who adds a lot to the group.

Joey: Joey is very bright and full of energy. He spent a lot of time pushing the boundaries of what is possible with Boost by trying to make a robot that would require two iPads to actually pilot. He loves to play with his creations and the other campers. He never causes trouble and is always polite. We were thrilled to have Joey with us in camp this week.

Colton: Colton is very creative. Within a day of being at camp he had three different ideas that he wanted to try building with the Boost kit. He has a lot of energy and enthusiasm, which I think is infectious to the other campers. However, when it's time to listen he puts his builds aside and is ready to move on to whatever new activity comes next. He has an admirable attitude that really helps keep camp fun.

James: It's so nice to have James back for another week. We missed him Tuesday, but the rest of the week he worked further on his robot. He still remains one of the most polite and considerate campers we have at camp. James is getting along well with Cameron this week and they seem to have a lot of fun talking during breaks. Overall,

James is a prime example of what we like to see campers get out of the camp experience.

Vera: Vera is continuing to put more and more effort into her cat this week. She really wants to finish it and is making great progress thanks to her new friend this week, Karson. They have a great chemistry and both work together to help each other out. It's very sweet to see. In regards to other aspects of camp, Vera is doing well there too. Vera is a great listener and is always willing to participate in the camp activities. We're happy to have her again.

Alma: Alma is a fun new face to have at camp. She gets along well with her peers and participates in all the various activities available at camp. She likes to work on her robot and takes on a much more creative approach in her builds instead of following the standard project instructions. She likes to have Lego car contests with her builds and is a very enjoyable camper to have on our roster.

Karson: Karson is a wonderful new addition to camp this week. She is very sweet and hard working. She is making diligent progress on her own build while also helping Vera make progress on hers, too. Karson embodies the selflessness that marks a great camper. Additionally, she listens well and actively participates in camp activities. Overall, she is an amazing new face to have at camp.

Dominic: Dominic is a very dedicated Lego builder. He loves to work on his robot and is making some of the fastest progress in all the group. He is self-sufficient but not afraid to ask for help when he gets stuck. Also, during the other activities at camp Dominic consistently meets or exceeds the expectations of the instructors. He rarely needs multiple reminders and overall is a great example for the other campers of what they should be doing at any given time.

Cameron: Cameron is great to have returning this week. He clearly has a lot of fun at camp and he's a pleasure to instruct. He is getting along well with Alma and Joey this week as well. They have many fun group builds they're working on that they use for mini competitions at camp. Cameron still loves to run around and be physical during break time. He does well with the soccer games and overall has a great attitude that really contributes to one of our best Boost groups ever.

Harrison: Harrison is picking up where he left off last week. He finished his cat and coded it with time to spare. He remains a great example to the other campers as well. He behaves and listens the first time he's asked to do something. During other activities he is happy to participate and overall is just a great kid to have at camp.

Ming Xi: Ming Xi is a great new camper to have this week. Ming Xi has been participating in doing the custom robot competitions that the other campers have been holding this week. He's had a lot of fun making his own unique designs and competing to be the best.

Elka: Elka is a model camper this week. He is very polite when asking for help and works diligently on his robot when it's Lego time. He gets along well with his peers, especially Ming Xi. They seem to have a lot in common. Elka seemed to really like the Science Institute. He was looking close at a lot of the exhibits and was understandably disappointed when it was time to go.

## Lego WeDo



The WeDo room had a great week filled lots of robot fun!

On Monday, Ethan and Jack started off the week strong, separately building helicopters and programming them in the morning. They both finished faster than the speed of light and begged for more challenging projects. Our new-comers, though still learning the program, also eased through the first project and wanted harder projects to work on.

Our eager campers worked so well together and gave each other a helping hand when they ran into problems

Tuesday was another exciting day for our campers. In the morning, many of the campers began working on a frog and Kahlil built a really cool pull bot that he was able to program without any help! After lunch, we went to the science museum where Nathan Li figure out, on his own, that edmontauruses were plant eaters after looking at an edmontosaurus skeleton. When a counselor asked him how he knew, he explained he looked at the dinosaur's mouth and saw that there weren't any sharp, pointy teeth and deduced that that meant the animal ate plants, which are easy to swallow.

The kids had an exciting start on Wednesday. All the campers got to pick what project they were going to work on and Lyanna chose to make a helicopter. Because this was Beckett's fifth week of camp, we had him working on a kit called "Simple Machines", where he used physical books to build a fan. We also spent the middle of the day at the pool and all the kids had a blast splashing around! Some kids, like Nathan Leibovitz, even went off the diving board!

On Thursday, the kids were off to a great start. They all had a look of determination and came into class ready to work. Not even two hours into the day, kids were making scientific observations on how the robot motors worked. Yang identified the propellers of the helicopter and began to think about how they worked in the real world! While the kids were making scientific discoveries, they were also showing great leadership and responsibility by picking up Lego pieces around the room and helping other kids build their robots. One of these stellar kids was Adam! Overall, we had a fantastic week with these fantastic kids!!



# Lego EV3



This was the third week the Lego Mindstorms EV3 Summer Camp. All the campers made good progress on the challenges last week and had another productive week of refining their designs and programs to make them competition ready.

Enzo and Calvin found ways to make their code more efficient. In addition, they worked on memorizing how to build their robot from scratch to simulate an actual WRO competition. After each rebuild, they had to tinker with either their build or their program to adjust for variation. They also worked on ways to make their robot faster without sacrificing consistency.

Joshua also practiced rebuilding his robot from scratch to simulate a competition and debugged his duplicate. In addition, he worked on making his program more efficient.

Zev and Sriram continued to work on their robot, which has to find and deliver light bulbs. They modified their code to make the robot go faster and made the robot narrower to help it avoid obstacles. They also took a crack at building their robot from scratch.

The WRO WeDo campers continued to refine their robots and practiced taking them apart and assembling them from parts. The instructors were impressed with how quickly they could do it. Oliver paired up with Marwan to form a team. They quickly created and coded a new robot capable of scoring all possible points in the game. Luke and Vivienne found that changes to their design could help them score better and created an arm wide enough to easily scoop up game pieces without needing the extra time to aim perfectly. MJ, Sebastian, and Valentina worked perfectly as a team during the rebuild time, each knowing their role in the process to get the robot rebuilt well and efficiently.

Cranbrook will be hosting a State level WRO tournament on Saturday July 20 for any WeDo teams that are interested. Any teams posting a high enough score will qualify for the WRO National Championship in Sunnyvale California in September. Elementary and Jr level teams that are interested in qualifying for the WRO National Championship can make a video showing the capabilities of their robot. While not all campers will pursue WRO competition, the WRO format has provided an opportunity for learning and fun.

The campers spent another session at the Natatorium, a welcome break from the heat. As the last week of the WRO comes to an end, the campers should feel proud of their accomplishments and also bring home memories of new experiences, making new friends and having fun!

**For Any Parents interested in Purchasing Kits used in Robotics Camps this Week, Here are the Links:**

## **Lego Education 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>**

## **Lego EV3**

**<https://www.lego.com/en-us/mindstorms/about-ev3>**

-