

Cranbrook Robotics Day Camp Newsletter

6/28/2019



Dear Parents,

This week at robotics camp your children had a blast learning about robotics! We had a fun time swimming at the Natatorium on Wednesday and learning about dinosaurs at the Science Institute on Friday. We look forward to showing you all the cool projects the campers worked on this week. Hope to see you all at the Show and Tell on Friday afternoon! Please note that the three different age groups have different show and tell programs planned. ALL parents attending the Show and Tells are asked to please parking lot at [550 Lone Pine Rd.](#) Signs will be posted on campus to highlight the path to the parking lot. Camp staff will direct you to the proper location of your child's robotics group when you arrive.

The Vex IQ (4th-7th graders) tournament takes place on Friday afternoons in the [Performing Arts Center](#) (PAC). Please plan to arrive at 2:30 when the finals are scheduled to begin.

The Lego WeDo (1st graders) and Lego Boost (2nd and 3rd graders) have Show & Tell on Fridays in their classrooms located in the Robotics Labs in [Hoey Hall](#). 2:30-3pm. Please plan to arrive between 2:30 and 2:45 to meet your child's instructors, see your child's camp room, and to see your child's awesome robotics projects!

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

Next Week's campers: We are excited to see our new and returning campers in Vex IQ, Lego Boost, and Lego WeDo and we would like to welcome our new **Lego EV3 robotics campers** who will be starting their 3-week session with us on Monday! The Lego EV3 Show and Tell will be open for parents in the Gordon Science building beginning at 2:30pm on Fridays. Please plan to arrive between 2:30 and 2:45 to meet your child's instructors and see your child's progress. Please park in the parking lot located at [550 Lone Pine Rd.](#)

Also, next week, we are so excited to announce our

4TH OF JULY CARNIVAL ON THURSDAY!!!

The CARNIVAL will include: a BBQ lunch, freshly spun cotton candy, mobile music theater, titanic and iceberg challenge, bubble soccer, a bounce house, an obstacle course, basketball frenzy, a dunk tank, and carnival games! Campers must be registered for camp during Week 3 to participate in the camp carnival. Campers who have elected to bring lunch from home for the week should plan to bring their lunch and snacks to eat on Carnival Day as well.

Thank you to all our Week 2 campers for sharing your summer with us at the Cranbrook Robotics Day Camp! Below is a summary of the three robotics classes we had at camp this week:

VEX IQ



In Vex IQ this week, instructors Mr. Elmer, Ms. Emma, Mr. Emerson, and Mr. Nikhil all looked forward to a great week of camp. All of the campers learned how to construct and program their robots for the Vex IQ competition “Squared Away”. The goal is to score the most points by putting plastic balls in some large cubes and bringing the cubes to the scoring zones. Some students came in with prior knowledge of Vex IQ robots, some had worked on robots the previous week and some were new to Vex IQ. All were able to build functional robots and increase their understanding. The week started by sharing some lessons learned from the previous week.

Heer and Alex built a robot with a 4 bar lift to pick up cubes, then added a linear lift in the back that enabled them to pick up a second cube. They were also the first to get a functioning autonomous program.

Aidan, Zach, and Dominic worked on a robot of their own design with an enclosed chassis, a 4 bar lift and a claw. Dominic showed off his skills programming in Python. He created a driver program with “arcade” control. They later swapped the claw out for an arm that worked better on cubes.

Sanjay, Kaden, and Daniel teamed up this week. They figured out that a pivoting arm would enable their robot to reach the highest goal while staying in size limits. They also added a tread lift to pick up a second cube.

Eli Nathan and Kazu decided to go with a 4 bar lift in the front and a pivoting lift in the back. Eli spent a lot of time learning the Robot Mesh software and was able to get his autonomous code to work.

Ethan added a belt lift to his robot, which enabled him to pick up two cubes at the same time.

Nikhil, coming off a strong performance last week, showed confidence in his robot with a linear lift for cubes.

After learning that we were adhering more strictly to the maximum size rules, Anniston modified her robot to be within the rules and still reach the highest goal.

Marcus showed some creativity with a six wheel robot and switched from a ball intake robot to a cube picking robot. He also got a lot of enjoyment with his “ramp bot” which competed well in unsanctioned “Battle-bot” competitions.

Devon chose a linear lift for his robot to lift the cubes and took extra measures to assure a sound structure. He later added a second linear lift in the back for additional scoring potential.

Brennan and Joey also built a linear lift using rack gears. With serviceability in mind, they modified it to make battery changes quicker and easier.

Evan and Dylan focused on scoring high value green cubes and took great care working on their robot manipulator.

The campers made a big splash at the Natatorium and they checked out the new exhibit “Doom of the Dinosaurs” at the Cranbrook Institute of Science. As the week of camp comes to an end, it was a very enjoyable and successful time to explore both engineering and robotics, while most importantly being able to make new friends and fun memories.

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, Ms. Suba, and Mr. Jason!

Here are some of the week’s highlights from our awesome campers:

Gerald: Gerald was determined to finish his truck this week. He continues to make steady progress, and is very socially active at camp. Simon, a fellow camper, actually

worked with Gerald to help him make some progress on the truck. He loves going to the pool and playing outside. No matter what the activity, Gerald is happy to participate.

Caleb: We missed Caleb on Tuesday, but for the time we did have him he seemed to be in good spirits. He wanted to keep his robot and spent a lot of time playing with it. He's been very bright and lively this week. His positive energy is a big help to the camp.

Simon Craft: Simon worked hard on his Conveyer Belt this week. He continues to have fun being with Ishan and they were able to help each other try and fix each other's Lego builds several times.

Anthoney Elia: Anthony is very adept at working with his Lego kit. He finished a project in just two days that would have taken many campers the whole week to finish. Then, he wanted to start a new one right away. He has great drive and attitude. An absolute pleasure.

Elizabeth: By the end of last week Elizabeth had built the majority of her cat, one of the most difficult builds. This week, Elizabeth added the legs and programmed her cat to eat, sing, and dance. She has become much more eager to build and work on her project.

Brooke: Brooke is a great new addition to the camp. She gets along great with Elizabeth and works diligently on her robot. She has a great attitude and it is so much fun to have her energy contribute to camp.

Ishan: Ishan really blossomed this week. He worked fast and efficient on his Conveyer Belt build and has been very passionate about it. He helped Simon with his project and together they finished very quickly.

Xander: Xander has been adjusting well to camp life. He is making good progress on his robot and gets along well with his peers. When he needs a break he loves to draw and makes very enjoyable art during down time. He's a very fun addition to the camp atmosphere.

Kai: Kai is very creative and passionate about his Legos. He immediately wanted to free build and explore the possibilities of the Boost kit, he built a very impressive windmill. When he was ready to do a guided build, he was still fantastic with his focus and diligence.

Eamon: Eamon has done a great job engaging with Boost and seems to be having a great time. He's clearly very excited about his Lego guitar and it's a lot of fun to see.

Nathaniel: Nathaniel has a great time participating in the various activities at camp. He especially liked going to the pool and playing with the instructors. He liked the Institute of Science.

Ramzi Simon: Ramzi is very focused and hard working. He quickly chose to build the Lego Robot and made impressive progress. We are glad that he is able to work around his other activities and join us for camp mid-morning each day. He has a great attitude about it.

Vivienne: Vivienne has such a unique sweetness to her. She is very kind and considerate of her fellow campers and is such a treat to have at camp. She's making steady progress on her Lego creation as well.

Asher: Asher spent his second week working just as diligently as the first. He quickly took apart his truck from last week and began work on the very intricate Conveyor Belt.

Ava: Ava has continued being a delight to work with. Despite making great strides on her guitar last week, she decided to immediately take apart her advanced guitar in favor of exploring the robot.

Luke: Luke is a methodical worker. He really seems to enjoy the challenge of building a robot and he is a model camper by making steady progress at his own pace while having a lot of fun. He has a great attitude and is overall a wonderful addition to camp.

Lego WeDo



We have been having such a fantastic second week of camp! We started out camp by going over rules, and the new campers

began making Milo. The returning campers from last week worked on a floodgate where Beckett was able to finish his in record time! After lunch, Ibuki used the rest of the day to design and build his own moving car, without any help!

Although every day is great at Robotics Camp, Tuesday was off to an especially great start. First, on the walk to the classroom, the campers had to pass by another camp, and they were extremely respectful and patient as the other campers walked by. Next, the campers welcomed a student who was visiting the camp for a few minutes and made her feel welcome and at home during her short stay. Then, the campers spent the rest of the day sharing and helping one another. Miles and Freddy worked especially well together, making sure to ask each other for help finding pieces, attaching them or any questions they had about their new project. It was so heartwarming to see the children be so kind, helpful and resourceful and you could feel the positivity and support from all corners of the room.

Wednesday was truly out of this world! The campers had two options of what to build: a dolphin or a space rover. Both options had instructions to build a simple base called “wobble” or “drive”, and then had a couple pictures of the finished product for the campers to use as inspiration for their projects. Maggie F. and Devin both finished their robot bases quickly, and they learned how to add other cool features to completely transform the original design! Beckett proved himself to be a true team player by helping everyone else find pieces and sharing ideas.

We started our final projects on Thursday. Rocco got inspiration from those around him and used Jaiden’s awesome steering wheel design on top of his robot, correctly hypothesizing that the wind would cause it to spin. At the same time, Noah combined art and robotics, constructing a volcano to compliment the volcano sensor he made. Speaking of art and engineering, Margaret used

LEGOs to explore the field of architecture. It was a creative day all around!

For Any Parents interested in Purchasing Kits used in Robotics Camps this Week:

Lego Education WeDo 2.0

<https://education.lego.com/en-us/products/lego-education-wedo-2-0-core-set/45300>

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Lego Boost Creative Toolbox

<https://shop.lego.com/en-US/product/BOOST-Creative-Toolbox-17101>

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Vex IQ Super Kit

<https://www.vexrobotics.com/228-2500.html>

Lego EV3

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

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