

WINTER
SPRING '18

Create & Bounce

Tech Camp

Our unique Technology Camp features Robotics with LEGO® Mindstorms® and LEGO® Stop-motion animation. Learn to design, build and program robots! Campers work both individually and in small teams (2-3) using the Mindstorms® Robotics Kit* and participate in the various fun challenges. Our Technology Camp is a camp that gives children a daily balance of playtime and imagination! It is both FUN and EDUCATIONAL! It is a one-of-a-kind experience your child will never forget.

Create and Bounce Technology Camp includes:

- Different projects each day
- Building LEGO® and programming workshops
- Daily snacks and treats
- Access to camp photos
- Well trained staff of camp counselors
- Low staff-to-camper ratio 1:10
- Secure, climate-controlled facility

Winter/Spring 2018

Date	Session
February 12	Presidents' Day (<i>Roseville Only</i>)
February 19	Presidents' Day
February 20	Presidents' Day (<i>Rancho Cordova Only</i>)
March 26, 27, 28, 29, 30 April 2	Spring Break

Enroll for
any 4 days
for only
\$129
per child

Ages: 7 - 13

Time: 9:15 am - 2:15 pm

Drop off/Pick up: FREE early drop off available starting at 8:30 am. Additional after camp hours (until 5:30 p.m.) available for modest additional charge, ask for details!

Cost: \$45/child for each day, \$39 for sibling or for each additional day if paid at the same time as the first child's enrollment.

Sample Daily Schedule

** Schedule is subject to change without notice

9:15 am - 9:30 am	Check in & Ice breaker activities
9:30 am - 11:30 am	Workshop #1: Build & Design + snacks
11:30 am - 12:15 pm	Bounce & Games
12:15 pm - 12:45 pm	Lunch
12:45 pm - 1:30 pm	Workshop #2: Programming, Challenges, and Play
1:30 pm - 2:15 pm	Bounce and Games

ROSEVILLE • (916) 783-4386
7611 Galilee Rd, Roseville, CA 95678
BounceU.com/roseville-ca

RANCHO CORDOVA • (916) 859-0559
11280 Sanders Dr, Rancho Cordova, CA 95742
BounceU.com/rancho-cordova-ca



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Sample Robotics Projects

TRACK 1 Robots	TRACK 2 Robots
<p>1. Ball Shooter This cool robot controls a pitching machine and batter with the touch of a button. Campers will get a chance to program their ball shooters with different speed and interval.</p>	<p>1. Race Car This Race Car is designed to look and steer like a real car, with pivoting front wheel steering. It is also designed for speed, with gears to increase the speed of the rear drive wheels. This robot race car uses the color sensor that is positioned under the car to do some basic autonomous operations by sensing the color of the surface. The sensor can distinguish six different colors, so you can make the car react to different colored tape lines, colored paper strips, etc.</p>
<p>2. Bumper Car This robot has a bumper in front that triggers a touch sensor to tell the robot when it has run into something. The program will make the robot drive around the room, turning each time it bumps into something. Start it anywhere, and see where it goes. Will it get stuck or keep going and going.</p>	<p>2. Segway w/ Rider This robot simulates a Segway PT, which is a two-wheeled self-balancing vehicle that a rider stands on. By using the NXT Color Sensor as a simple proximity sensor to the ground to detect the approximate tilt angle of the robot, the robot can actually balance itself.</p>
<p>3. Hammer Car This Hammer Car can drive around and swing its hammer down to pound whatever is in front of it. You can drive, steer, and swing the hammer all by using the single touch sensor button on the remote control.</p>	<p>3. Sumo wrestling robot Campers will design robots for Sumo match. Two robots start inside a ring marked with a border of a contrasting color and try to be the first one to push the other robot outside the ring (without accidentally driving outside the ring themselves).</p>
<p>4. Mini Rover with remote control Campers will have so much fun building this super cool rover operated by a remote control. At the end of the camp session, we will have fun games and challenges that allow everyone to show their creativity!</p>	<p>4. Tripod Bot The tripod is a three legged walking robot that you have to see to believe. It can walk in three directions but it is a little shy because when it sees you, it will quickly walk turn away.</p>
<p>5. Line Follower Line follower is a robot that follows a line on the ground. It will use one light sensor to sense where the line is, and use this to control the motors to steer the car and stay on the line.</p>	<p>5. Robo-Gator This Robo-Gator act just like alligator and only attacks if he has the nerve (which most alligators do). The humanoid senses color and tells you what color it is sensing. It also walks and feels using touch sensors.</p>
<p>6. Claw Striker Claw Striker uses the ultrasonic sensor to automatically locate a target, adjust its distance to the target, and then swing its claw like a whip to strike the target.</p>	<p>6. Strider This six-legged monster walks around in any direction. It's antennas detect input from humans or other animals. While it may seem like a scary spider, this robot is actually afraid of light. You'll program this robot to walk only in the dark, and stop when the lights are on. We'll also program this robot to walk around and change direction if one of the antennas is touched.</p>
<p>7. Telegraph Tap out any rhythm on this telegraph, and it will answer you by playing back your exact rhythm with the NXT's speaker, as if a distant friend on the other end of the line was answering and repeating you.</p>	<p>7. Llama Bot Llamas actually do spit—which you will learn first-hand of you scare or anger one of these animals in person. This robots spits balls with a Zamor shooter.</p>

LEGO® and Mindstorms® are trademarks of the LEGO Group, which does not sponsor, authorize, or endorse this camp.



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TRACK 1 Robots	TRACK 2 Robots
8. Hand Generator Car & Top spinner Campers will have a blast building two very cool robots: A cool car powered by a hand cranked generator and a handheld motor spins up a spinning top faster than you could spin it by hand!	8. Forklift Campers will build a forklift that can drive around, lift loads that are placed in the pallet bucket 7 inches straight up, set them gently down on top of shelves, and then take them back down.
9. The Explorer Robot explorer can zoom around the room and avoid any obstacle it run into. We'll create a challenging obstacle for our robot explorer and send him for a special mission!	9. Shot Rollers A robotic defense system that can shoot in any direction to keep intruders out of a room.
10. Golf-Bot Golf-Bot has a robotic arm that can swing as a golf club to hit balls. We will set up our own miniature golf course with obstacles and walls and then play a game of golf!	10. Jeep Bot The Jeep Bot is a four-wheeled, front-wheel drive vehicle that can react to obstacles in its path using the ultrasonic sensor mounted on the roll bar. The Jeep is programmed to begin turning to the left as it approaches an obstacle, turning sharper the closer it gets.
11. Path Measurer Robot This super smart robot that can measure any path you challenge her to measure! At the end of the building session, campers will create different challenges to test how smart our Path Measurer Robots are.	11. Everstorm (LEGO® MINDSTORMS® EV3) A Mohawk-sporting humanoid that shoots mini-spheres as it walks.
12. Electric Guitar Campers will build a state-of-the-art electric guitar uses the ultrasonic sensor to measure the distance to a plate that slides along the neck of the guitar, which determines which note or chord to play. Let's rock and roll!	12. Tracker (LEGO® MINDSTORMS® EV3) Automated tank that scans the area for any intruders

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