

# SUMMER CAMP 2021 JUNIOR

STEM & ROBOTICS  
STUDIO ONE, STUDIO CITY



## JUNIOR STEM AND ROBOTICS SCHEDULE

Week	STEM Theme	Robotics
<b>Week 1</b> 4 <sup>th</sup> July to 8 <sup>th</sup> July	<b><i>Forces and Motion</i></b> Explore different forces acting on objects and play with forces by creating different engineering designs – flying machines, blast-off space rocket, catapults and crossbows, cotton ball launcher, etc.	<b><i>Get started with robot electronics</i></b> Explore the electronics of a robot with this simple, easy-to-run Arduino-based robot
<b>Week 2</b> 11 <sup>th</sup> July to 15 <sup>th</sup> July	<b><i>Light and Shadows</i></b> Learn more about light – Do all the materials allow the light to pass? How are shadows formed? Make a light box. How do waves travel? Make a DIY lens and magnifying lens.	<b><i>Program a drone</i></b> Learn the principles of aerodynamics, block-based programming, and exercise logic and use critical thinking skills while having fun with drones.
<b>Week 4</b> 25 <sup>th</sup> July to 29 <sup>th</sup> July	<b><i>Sun, Moon and Stars</i></b> Explore more about our solar system – Find out about the planets in our solar system and the planet sizes; what makes rocket fly; know more about the constellations; what is rotation & revolution. Build a pinhole camera to view solar eclipses safely.	<b><i>Create and explore science robots</i></b> Design, create, and code great science projects with LEGO elements and an easy, intuitive, block-based coding interface
<b>Week 5</b> 1 <sup>st</sup> August to 5 <sup>th</sup> August	<b><i>Water, water, everywhere</i></b> Learn more about water – like what is water cycle, other characteristics of water with different experiments, tell the time with a DIY water clock, build dams like beavers to prevent flash floods, and learn ways to get clean water from dirty water	<b><i>Get started with robot electronics</i></b> Explore the electronics of a robot with this simple, easy-to-run Arduino-based robot
<b>Week 6</b> 8 <sup>th</sup> August to 12 <sup>th</sup> August	<b><i>Animal Habitats and adaptations</i></b> Explore how the animals adapt to their surroundings. Learn about camouflage, bird beak adaptation, aquatic adaptation, paw adaptation, and vision adaptations	<b><i>Program a drone</i></b> Learn the principles of aerodynamics, block-based programming, and exercise logic and use critical thinking skills while having fun with drones.
<b>Week 7</b> 15 <sup>th</sup> August to 19 <sup>th</sup> August	<b><i>Sound and vibration</i></b> Learn more about sound like - how does sound travel, create devices that can amplify sound, and create musical instruments	<b><i>Create and explore science robots (WeDo 2.0)</i></b> Design, create, and code great science projects with LEGO elements and an easy, intuitive, block-based coding interface
<b>Week 8</b> 22 <sup>nd</sup> August to 26 <sup>th</sup> August	<b><i>Earth Ambassadors</i></b> Become an Earth Ambassador, learn about sustainability with these activities, make plastic from milk, build a windmill, turn dirty water into clean water, make a greenhouse	<b><i>Explore machines and mechanisms</i></b> Build and explore real-life machines and mechanisms: investigate powered machines that run on motor