

Engineering Program Boxes

Grade	Patch/ Badge	Module Name	Module Description	Example Activities	Examples of Materials Included	Sessions	Cost (per girl)
Engineering							
K-1		Daisy GoldieBlox	Learn about concepts such as gravity and compression as girls build roller coasters and model cars.	Board game design challenge, roller coaster design challenge, model car design challenge	plastic washers, wheels, small tires, blocks, GoldieBlox and the Parade Float book	6	\$5
2-3		Brownie GoldieBlox	Learn about concepts such as gravity and compression as girls build roller coasters and model cars.	Design a fling flyer, build a race car, make a leap bot	springs, blocks, plastic washers, wheels	6	
K-3		Movie Chemistries	Create special effects for the movies as a chemical engineer in the prop department.	Engineer film cannister rockets, make paint	pie pans, alka-seltzer, film cannisters, pipettes, lithmus paper	5	
		Piglet Constructions	Design and construct houses, towers and bridges as a civil engineer with the Little Pig Construction Company.	Design and test houses against the elements, design a table using newspaper	model magic, roger rods, Jenga game, plastic pigs, golf balls, paper grass		
		Train Attractions	Explore magnets and electricity as an electrical engineer for the train company of the town of Attraction.	Extract iron from cereal, jitter bugs	donut magnets, energy ball, alligator clips, magnetic trains		
4-12		Robotics- LEGO Mindstorm	Design, build, and program your own robot. Use LEGO® Mindstorm NXT kits to help you tell your story and complete a challenge.	Build and design a robot	LEGOS, Mindstorm software CD, 5 minute bot instructions	9	

4-12		Robotics- VEX IQ	Instructions are included for girls to program a robot of their own creation!	Build and design a robot	Instruction manual, wheels, motor	9	\$5
4-8		Video Game Design	Explore and experiment with the principles of Video Game Design by creating a physical game board and creating an online game!	Create a physical game board, design a video game	pizza boxes, wire strippers, light emitting diodes, aluminum tape	4	\$10
4-12		Design Time	Work through the engineering design process and get your creative juices flowing with four playful design scenarios.	Design a pencil bag, engineer bubble solution	wire, fabric pieces, velcro, bubble wands, baby shampoo	4	
		Engineers to the Rescue	Apply engineering know-how, problem solving skills, and design savvy to navigate your way out of a camping trip gone wrong.	Create a wind powered crank, water filter	cardboard squares, spools, straws, kite string, clay, wooden dowels	4	
		Make It Green	Construct a green studio from start to finish - from brainstorming an idea, to creating a floor plan, to building "green."	Build a miniature home shoebox; "What recycled material am I?" game	fabric pieces, craft sticks, foam sheets, glue guns, green design portfolio	5	
4-12		Power It Up	Master electricity and circuits through a series of hands-on investigations, with the option to use a soldering iron.	Create a light-up gameboard, tinker with snap circuits; includes solder and non-solder options	soldering irons, lithium coins, circuit boards, light emitting diodes	5	
4-12		ThrillBuilders	Explore simple machines all around you in a crazy carnival of your own creation.	Design a Merry-go-round, racecar	spools, wooden skewers, pipe cleaners, bicycle bell, plastic wheels	4	

Module names in blue indicate links to training

Questions? Contact Arri DeJesus at adejesus@gsnorcal.org