



MANA ROBOTICS

ENGINEERING CAMP

AGES 10-14

HANDS-ON

STEAM

**PROJECTS THAT DEVELOP
REAL ENGINEERING SKILLS!**



Camp Dates and Pricing

FULL DAY: March 26

Cost \$270

8:30am - 3:00pm

HALF DAY: March 28 April 11 April 18

Cost \$135

9am - 12pm or 1:30pm - 4pm

SIGN UP HERE

REGISTRATION CLOSING MARCH 6TH



ROBOTICS STEAM CAMPS

01 INTRODUCTION

ABOUT THE CAMPS

THESE CAMPS ARE DESIGNED TO INTRODUCE STUDENTS TO REAL ENGINEERING TOOLS IN A FUN AND HANDS-ON WAY. STUDENTS WILL SOLDER, CODE, 3D PRINT, AND BUILD WORKING PROJECTS THEY CAN TAKE HOME.



02 MARCH 26TH — FULL DAY

ELECTRONICS + SPEAKER BUILD

MORNING

STUDENTS LEARN THE BASICS OF ELECTRONICS AND SOLDERING WHILE BUILDING A SMALL FLIP LANTERN.

AFTERNOON

STUDENTS LEARN ABOUT 3D PRINTING AND ASSEMBLE THEIR OWN SPEAKER.

STUDENTS LEAVE WITH BOTH PROJECTS AND A STRONG INTRODUCTION TO ELECTRONICS.



03 MARCH 28TH— HALF DAY

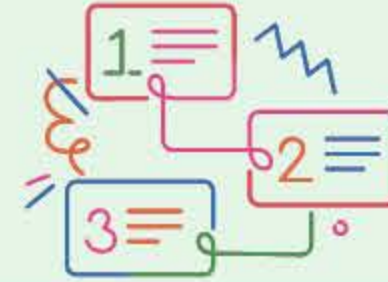
AIR PIANO

STUDENTS BUILD A MOTION-CONTROLLED INSTRUMENT USING AN ULTRASONIC SENSOR.

THEY LEARN:

- HOW SENSORS DETECT MOVEMENT
- BREADBOARDING CIRCUITS
- SIMPLE CODING

BY THE END OF THE CAMP STUDENTS HAVE A WORKING AIR PIANO THEY BUILT THEMSELVES.



04 INFORMATION

THE FULL-DAY CAMP ON MARCH 26 RUNS FROM 8:30 AM TO 3:00 PM, WITH SNACKS PROVIDED; STUDENTS ARE EXPECTED TO BRING A PACKED LUNCH.

THE HALF-DAY CAMPS ON MARCH 28, APRIL 11, AND APRIL 18 EACH OFFER TWO IDENTICAL SESSIONS, ONE IN THE MORNING FROM 9:00 AM TO 12:00 PM AND ONE IN THE AFTERNOON FROM 1:00 PM TO 4:00 PM, SO STUDENTS CAN CHOOSE WHICHEVER TIME WORKS BEST FOR THEM.

SNACKS ARE PROVIDED, AND EACH SESSION IS LIMITED TO 14 STUDENTS SO EVERYONE GETS PLENTY OF TIME BUILDING AND LEARNING.

**SIGN
UP
HERE!**



05 APRIL 11TH— HALF DAY

BUILD YOUR OWN GAME

STUDENTS DESIGN AND PROGRAM A HANDHELD VIDEO GAME.

THEY WILL:

- LEARN HOW MICROCONTROLLERS WORK
- PROGRAM SIMPLE GAME LOGIC
- USE BUTTONS AND OLED DISPLAYS
- 3D PRINT PART OF THE CASE

STUDENTS LEAVE WITH THEIR OWN WORKING GAME.



06 APRIL 18TH — HALF DAY

ROBOTICS BUILD

STUDENTS COMBINE THE SKILLS FROM THE EARLIER CAMPS.

POSSIBLE BUILDS INCLUDE:

- ROBOTIC CAR WITH SENSORS
- ROBOT DESK COMPANION

THIS IS THE MOST ADVANCED CAMP AND FOCUSES ON PROBLEM-SOLVING AND ENGINEERING DESIGN.



WHY WE RUN THESE CAMPS

The camps are organized by the HPA Mana Robotics Team to share engineering with younger students and help support the team's upcoming competition season.

Each camp helps fund students working toward the World Championship.