

Curriculum Outline



Month Map

Month	Weeks Covered	Builds / Focus
Month 1	Weeks 1–4	Motorized Rover; Humanoid Walker
Month 2	Weeks 5–8	Obstacle Avoiding Rover; Robotic Arm (Grabber)
Month 3	Weeks 9–12	Scorpion Robot; Crocodile Robot
Month 4	Weeks 13–16	Advanced Rotating Arm; Custom Hybrid Robot (start)
Month 5	Weeks 17–20	Custom Hybrid Robot finish; Debugging; Showcase

NOTE: All activities will be take place onsite within the classroom and all supplies will be provided

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January

Goal: Introduce basic assembly, motors, and simple movement programming; begin exploring legged motion.

Conversation Prompts

- “What part of the build surprised you today?”
- “How would you change the rover to make it turn faster?”

February

Goal: Introduce sensors and precision control; learn pick-and-place basics.

Conversation Prompts

- “How did the robot ‘see’ the obstacle?”
- “What would you change to make the arm gentler?”

March

Goal: Explore biomimicry and reactive behaviors using sensors and loops.

Conversation Prompts

- “Which animal behavior would you like to copy next?”
- “How fast did the jaw react when it detected movement?”

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April

Goal: Advance precision manipulation and begin student-led design for a hybrid robot.

Conversation Prompts

- “What is the one feature your hybrid robot must have?”
- “How did your design change after the first test?”

May

Goal: Refine designs, optimize performance, and prepare for a showcase or friendly competition.

NO MEETING ON THE FOLLOWING DATES

MON JAN 19 – NO SCHOOL – MLK

MON FEB 16 – NO SCHOOL – PRESIDENT’S DAY

MON MAR 9 – NO SCHOOL – SPRING BREAK

THU MAR 12 – NO SCHOOL – SPRING BREAK

MON MAR 16 – NO SCHOOL – TEACHER WORK DAY