

SUGGESTED COUNTY FAIR CLASSES ROBOTICS CURRICULUM

The following list provides ideas for developing county fair Robotics classes, based on the latest national 4-H curriculum.

LEVEL 1: ROBOTICS EXPLORER

1. Basic LEGO tankbot that I designed and built
2. Poster: differences among machines, computers, & robots
3. Poster: parts of an RCX (robot's brain)
4. Program: tankbot goes forward for 4 seconds
5. Program: tankbot turns left 3 different ways
6. Program: tankbot navigates a maze
7. Program: tankbot travels around square race track
8. Program: tankbot stops, using a touch sensor
9. Program: tankbot stops, using a light sensor
10. Program: tankbot goes forward for 4 seconds without using wait-for icon
11. Program: tankbot follows a path
12. Program: tankbot follows a path for a length of time
13. Program: tankbot stops, using both touch & light sensors
14. Program: tankbot completes challenge course
15. Completed member guide (08364)

LEVEL 2: ROBOTICS PROBE

1. Robot that I designed and built
2. Program: robot goes forward & backward
3. Program: robot determines distance, using rotational sensor
4. Program: robot controls turns, using rotational sensor
5. Poster: types of gears
6. Compound gear train
7. Report: how gear ratio affects distance traveled
8. Report: how pulley size affects distance traveled
9. Report: how gear ratio affects travel speed
10. Program: robot goes forward then backward, using containers (variables)
11. Robotic gripper that I built
12. Program: robot grips soda can and returns to starting point
13. Program: robot does multiple tasks at same time
14. Program: robot travels around square race track, using subroutines
15. Program: robot navigates a maze, using Sub-VI's
16. Program: robot follows a line, using loops
17. Completed member guide (08365)