

## ROBOTICS

Youth enrolled in Robotics Explorer, Robotics Probe or GEAR TECH 21 may exhibit in any class within this division.

### Robotics – Robotic Explorer – Unit 1

- 1.+ Robotics Poster (SF236) - Create a poster (14" X 22") communicating a robotics theme such as "Robot or Not", "Pseudocode", "Real World Robots", "Careers in Robots" or "Autonomous Robotics", "Precision Agriculture" or a robotic topic of interest to the 4-H'er.
2. + Robotics Notebook (SF237) – Explore a robotics topic in-depth and present your findings in a notebook. Documentation should include any designs, research, notes, pseudocode, data tables or other evidence of the 4-H'ers learning experience. The notebook should contain at least three pages. Topics could include a programming challenge, a programming skill, calibration, sensor exploration, or any of the topics suggested in Class 1.
3. + Robotics Video – This class should be displayed in a notebook. The notebook should include a video clip on a CD/DVD that demonstrates the robot performing the programmed function. Include your pseudo code and screenshots of the actual code with a written description of the icon/command functions. Scoresheet SF238.
4. + Robotics Careers Interview – Interview someone who is working in the field of robotics and- research the career in robotics. Interviews can either be written or in a multimedia format (CD/DVD). Written interview should be in a notebook. Written reports should be 3 to 5 pages, double spaced, 12 point font, and 1" margins. Multimedia reports should be between 3 to 5 minutes in length. Scoresheet SF239.
5. + Robotics Sensor Notebook – Write a pseudo code which includes at least one rotational sensor activity. Include the code written and explain the code function. Scoresheet SF241.
6. + Build a Robot (may use kit) – Include a robot and notebook including the pseudo codes for at least one program you have written for the robot, the robots purpose, and any challenges or changes you would make in the robot design or programming. Scoresheet SF243.
7. + Kit Labeled Robot (cannot be programmed.)– This class is intended for explorations of robotic components such as arms or vehicles OR educational kits marketed as robots that do not have the ability to be programmed to "sense, plan and act." The exhibit should include a project the youth has constructed, a description of what it does and an explanation of how it is similar to and different from a robot.