

Technology and Robotics

The Technology and Robotics project offers 4-H'ers a chance to learn about engineering, programming, problem solving, creativity, and teamwork. 4-H'ers are encouraged to participate in one of the two Marion County robotics/technology clubs and associated challenges and competitions. 4-H'ers 3rd grade and up may join the Digibytes club, which utilizes Lego Mindstorm Robots. 4-H'ers in 7th grade and up may join the Marion County Jr/Sr. High Robotics club which uses VEX robots and other, more advanced robots. The Jr/Sr. High club also teaches other aspects of STEM (Science, Technology, Engineering, and Mathematics)

Exhibit Requirements:

Cloverbud (Grades K-2) Junk drawer robotics provide a chance for cloverbuds to learn about robotics concepts before entering traditional 4-H and the county robotics clubs.

Level 1 (Grades 3-5) Level 2 (Grades 6-8) Level 3 (Grades 9-12)	Members in Levels 1-3 may choose one exhibit option from from video, notebook, or Junk Drawer robotics options.
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Video:

Make a short YouTube style video demonstrating a technology or robot that you have constructed in action. Make sure you clearly describe the goal or purpose of the item, how the item functions, what you learned or any challenges you overcame in the construction of your item and make sure that your video is presented in a professional manner (in focus, good audio quality, no giggling, etc.).

OR

Make a short YouTube style video of how to do construction or programming of a robot or a training video on a technology. Make sure that the information you present is clear and useful. Your video should be complete enough that someone would feel confident following your steps to complete the task on their own. Make sure that your video is presented in a professional manner (in focus, good audio quality, no giggling, etc.).

Notebook:

The same information above could also be presented in notebook form using photos and or sketches along with captions. Make sure information is presented in a professional manner (easy to read, free of grammatical errors, photos in focus, etc). It is recommended that your notebook be displayed in a 3 ring binder with the pages in sheet protectors. While most 4-H projects are not allowed to be touched at the fair, we want to encourage the public to look through and read your notebook.

Junk drawer robots: This is your chance to build your own model robot. Use objects you find around your house, garage, or workshop to construct a robot or other item that exhibits principles you have learned about in robotics. Your exhibit does not have to be fully functional. Commercial kits and activities found on the internet may be used, but points for creativity will be given in judging. A big part of robotics is the design process. It is best to reevaluate the design and make any improvements that you can. Make sure your construction can hold up to being moved around, you may mount it to a base if you desire. Please complete the Junk Drawer Robotics record sheet and attach it to your exhibit.

Advanced Topics: This is your chance to build something using your knowledge of technology. Use creativity and high tech devices (electronics, pneumatics, mechanics, computers, etc.) to build a useful item. Describe what you have built and how it works using any of the presentation methods above.

Resources:

[Junk Drawer Robotics Record Sheet](#)

[Video or Notebook Scorecard](#)

[Junk Drawer Robotics Scorecard](#)

[Pinterest Board of Robotics Project Resources](#)