

## **Unknown Challenge: Junior, Intermediate & Senior Divisions**

Clubs will gather on the morning of the event for the Unknown Challenge Release, hearing for the first time details of the challenge(s) robots must accomplish. For 1 hour teams will work in their pit areas to design, build, and program a robot that can complete the tasks outlined in the Challenge Release. At the end of this work time, clubs will demonstrate their skills on the main stage by completing the challenges.

The theme of the challenge will be Recycling, with various game elements following along the theme of recycling.

It is expected that teams will bring a robot to the event already built. Once they see the challenge they may choose to design and build additional mechanisms or add things to their robot to complete the challenge.

The robot will have 2 minutes on field to complete all of the tasks. During the first minute the team **may interact** with the robot either through a remote control or by picking up and setting down the robot with their hands and pressing buttons on the robot brain. During the second minute, robots must operate completely autonomously. No wired remotes (RC car type controls) are allowed.

The specific challenge and items provided will vary based on the age division, with more complex, larger items provided to the competitors in the senior division.

Part of the challenge field itself will be created by the participants using materials provided at the event.

The field for Junior & Intermediate Divisions will be a 4 ft x 8 ft FIRST LEGO League/VEX IQ field style, with walls.

The field for the Senior Division will be a 12 ft x 12 ft field of foam tiles like those used in the VRC games. The Senior Division field will have NO WALLS.

Use of a remote control for the first minute is allowed, as long as the team includes some programming of the controller beyond the basic tank or arcade driver controls and as long as they are able to explain their programming to the judges. If a team does not have a remote control, they may interact with the robot by picking it up and placing it in a specific location up to 3 times, and/or by interacting with the buttons on the robot brain up to 3 times, without any penalty.

Robots must spend at least one minute on field operating autonomously (no remote control). No wired remotes (RC car type controls) are allowed.

Robot platforms may be LEGO Mindstorm NXT or EV3, VEX IQ, VEX V5 or Cortex, or any other robotics platform that meets the size and design requirements.

\*\*\*\* EARN EXTRA TIME AND HINTS \*\*\*\* to complete the challenge



by bringing canned food donations for the 4-H Feeding Missouri initiative.

10 cans = 10 minutes extra work time and a hint about the challenge before the start of the event. Maximum of 3 hints/30 min extra. (but no maximum on donation amounts so feel free to bring extra!!)

The Unknown Challenge will be judged based on creativity and technical accomplishments on the field.