

4-H ROBOTICS

Superintendent:

Brenda Johnson
(360) 606-9334

Assistant Superintendent

Exhibits are entered on Tuesday, July 30th, from 10 am to 8 pm at the Clark County Fair Grounds in the Event Center Exhibit Hall A – 4-H Still Exhibit Area.

The Robotics exhibits will be located/exhibited in South Hall 3 from August 2 - 11 during the Clark County Fair. Demonstrations will be at 1 pm and 6 pm starting the first Friday of the Fair.

STEWARDSHIP: Exhibitors are required to do stewardship at the Robotics Display area. Failure to do so will mean that his or her premium will be withheld.

JUDGING:

Judging will start at 10 am Saturday, August 3, 2024. Exhibitors who are demonstrating their robots for judging should be at the demonstration area at 9:50 am to sign up for a time to demonstrate.

RULES & REGULATIONS:

- 1) Exhibitors must be enrolled in the Robotic Project.
- 2) Project should involve youth created robots. They can be created from Legos, kits or from miscellaneous parts. Robots will be entered on Tuesday, July 30th at the Clark County Fairgrounds, Event Center, Exhibit Hall A, 4-H Still Exhibit area.
- 3) All Robotic Project entries will be available for pick up on Sunday, August 11, from 10-11 p.m. or on Monday, August 12th from 9 a.m. to Noon (12 p.m.) in Exhibition Hall A
- 4) Robotics project and full description of what it is meant to accomplish must be submitted with entry. The description is to be presented on an 8 ½ X 11 poster.
- 5) Robots will be judged on structural stability, creativity, and functionality and completeness of mini posters. See club leader for more detailed information.
- 6) All projects will need a short video showing how the project operates. AQR code will be added to the poster for public viewing.
- 7) Exhibitors can have a total of 10 entries in the Robotic Divisions, with no more that two of the same Class.

Mini Poster for projects should include the following information.

- A. Introduction
 - 1) Your age, grade completed, number of years in robotic project, club name
- B. Project
 - 1) What project did you select?
 - 2) Why did you decide to do this project?
- C. Materials
 - 1) What materials did you use (Lego pieces, miscellaneous parts)
 - 2) What made you choose these materials?
- D. Steps

- 1) List the steps that you used to create your project (instructions from a kit, self-designed).
 - 2) What problems did you encounter during the build? How did you overcome the problems?
- E. Results
- 1) Show an example of your final project (model or picture)
 - 2) Did you like the project
 - 3) Was the final project what you expected it to be when you were done?
 - 4) If you were to do it again would you have done anything differently – explain?
 - 5) What did you learn from your experience?

Division 912: ROBOT PROJECT BUILT BY INDIVIDUAL USING INSTRUCTIONS

Points: Blue 14, Red 10, White 6

No more than 2 entries total in each class.

CLASS 1 – Non Programmable Motorized Robot Project built with Lego parts, using instructions.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- and less than 19 as of October 1 of current 4-H year

CLASS 2 – Non Programmable Motorized Robot Project built with primarily non Lego parts, using instructions.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- and less than 19 as of October 1 of current 4-H year

CLASS 3 – Programmable Robot Project built with Lego parts, using instructions.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- and less than 19 as of October 1 of current 4-H year

CLASS 4 – Programmable Robot Project built with primarily non Lego parts, using instructions.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- and less than 19 as of October 1 of current 4-H year

CLASS 5 – Programming copied from instructions. Programming must be printed for judging and placed into a document cover or clear folder, expected to be more than 1 page. The program should include details such that the judge can easily understand the function of the program. Included comments about robot project performance and what was learned. Include at least one photo of the robot project.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- and less than 19 as of October 1 of current 4-H year

DIVISION 913: ORIGINAL ROBOT PROJECT BUILT BY AN INDIVIDUAL (without using a kit or detailed instructions, or 50% of kit build was redesigned or altered)

Points: Blue 26, Red 20, White 14

No more than 1 entry total in each class.

CLASS 1 – Non-Programmable Motorized Robot Project built with Lego parts, original design.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- and less than 19 as of October 1 of current 4-H year

CLASS 2 – Non-Programmable Motorized Robot Project built with primarily non Lego parts, original design.

- A. Junior 8-10 yrs. of age as of October 1 current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 current 4-H year
- C. Senior 14- and less than 19 as of October 1 of current 4-H year

CLASS 3 – Programmable Robot Project built with Lego parts, original design.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- and less than 19 as of October 1 of current 4-H year

CLASS 4 – Programmable Robot Project built with Non Lego parts, originally design.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- and less than 19 as of October 1 of current 4-H year

CLASS 5 – Original Programming, Programming must be printed for judging and placed into a document cover or clear folder, expected to be more that 1 page. The program should include details such that the judge can easily understand the function of the program. Include comments about robot project performance, problems encountered during programming, and what was learned. Include at least one photo of the robot project.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- and less than 19 as of October 1 of current 4-H year

DIVISION 914: ROBOT PROJECT DESIGN AND DISPLAY

Points: Blue 14, Red 10, White 6

No more than 2 entries total in each class.

CLASS 1 – Non motorized or non programmable robotics project. Items must highlight at least 2 simple machines.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 as of October 1 of current 4-H year

CLASS 2 – Craft showing any robotics topic.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 yrs. as of October 1 of current 4-H year

CLASS 3 – Notebook or poster or chosen subject of technology presenting a robotics event attended (with pictures and explanations).

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 yrs. as of October 1 of current 4-H year

Division 916: ROBOT PROJECT BUILT BY A GROUP

Ribbons Only – Exhibition (first year)

No more than 2 entries per group total in each class.

Write number of members in the group on the exhibit form. Premium points will be multiplied by the number of group members. Maximum 10 members to a group. Premiums will be sent to the club.

CLASS 1 – Sumo Team Robot designed for competition. The robot should include information pages detailing the function of the robot. Include comments about robot performance and problems encountered while building. Include at least one photo of the robot project performing a task.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 yrs. as of October 1 of current 4-H year

CLASS 2 – FTC Team Robot designed for competition. A portfolio must be included with the robot project. The robot project portfolio should include information pages detailing the team members and the function of the robot. Also include comments about robot performance and problems encountered while building. Include at least on photo of the robot project performing a task.

- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 yrs. as of October 1 of current 4-H year

CLASS 3 – FRC Team Robot designed for competition. The robot should include information pages detailing the function of the robot. Include comments about robot performance and problems encountered while building. Include at least one photo of the robot project performing a task.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 yrs. as of October 1 of current 4-H year

CLASS 4 –Group Robot project. The robot project should include information pages or a trifold poster detailing its function. Include comments about robot project performance and problems encountered while building. Include at least one photo of the robot project performing a task.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 yrs. as of October 1 of current 4-H year

CLASS 5- Original programming, no instructions used. Programming must be printed for judging and placed into a document cover or clear folder. The program should include details such that the judge can easily understand the function of the program. Include comments about robot project performance and problems encountered during programming. Include at least one

photo of the robot project. Do not put individual programs in this lot. This lot is for programs written by more than one individual.

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 yrs. as of October 1 of current 4-H year

DIVISON 909 – LEGO ROBOTICS PERFORMANCE CHALLENGE

Individuals will compete to gain the highest score during a 2 and ½ minute period. Scores will be determined per the FIRST Lego League Competition Challenge. Top three scores will receive a blue ribbon, next four scores will receive a red ribbon, and the next three scores will receive a white ribbon. ribbons and medals will be given at an awards ceremony held on Sunday, August 11th at 2:00 p.m. in South Hall 3.

Points: Blue 16, Red 12, White 8

No more than 2 entries total in each class.

CLASS 1 – Entire 2 and ½ minutes scored.

- A. Junior 8-10 yrs. Of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14-18 as of age as of October 1 of current 4-H year

CLASS 2 – Only 1 robot run scored. (Robot run ends when the robot returns to base, or the individual has to retrieve the robot from the field).

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 yrs. as of October 1 of current 4-H year

CLASS 3 – Best use of attachments. (Ease and speed of exchange. Simplicity).

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 yrs. as of October 1 of current 4-H year

CLASS 4 – Sumo Bot (Most wins determines ranking)

- A. Junior 8-10 yrs. of age as of October 1 of current 4-H year
- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
- C. Senior 14- 18 yrs. as of October 1 of current 4-H year

DIVISION 911 3-D Design and Print – Projects must include 3-D print project and printed page or pages from 3-D modeling software. (Only for intermediates and seniors).

No more than 2 entries total in each class.

CLASS 1 – 3-D Robotics project print, copied design.

- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
 - C. Senior 14- 18 yrs. as of October 1 of current 4-H year
- Points: Blue 14, Red 8, White 4

CLASS 2 – 3-D Robotics project print, ORIGINAL DESIGN, one part.

- B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year
 - C. Senior 14- 18 yrs. as of October 1 of current 4-H year
- Points: Blue 14, Red 10, White 6

CLASS 3 – 3-D Robotics project print, ORIGINAL DESIGN, two parts that interact with each other.

B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year

C. Senior 14- 18 yrs. as of October 1 of current 4-H year

Points: Blue 16, Red 12, White 8

CLASS 4 – 3-D Robotics project print, ORIGINAL DESIGN, motor driven project with a minimum of 3 printed parts.

B. Intermediates 11-13 yrs. of age as of October 1 of current 4-H year

C. Senior 14- 18 yrs. as of October 1 of current 4-H year

Points: Blue 26, Red 20, White 14