4-H ENGINEERING & TECHNOLOGY

4-H STILL EXHIBITS AREA (EXHIBITION HALL C)
Superintendent Coordinator
Oscar Carlson
360-721-7365

Each 4-H member showing in this department is responsible for reading and complying with the **General Rules** for the Clark County Fair, the 4-H rules and regulations (Clark County Fair General Rules and 4-H General Rules documents are available on the Clark County Fair's website www.clarkcofair.com), and the special rules and regulations of this department. The Engineering & Technology Divisions will be located in 4-H Still Exhibit Area in Exhibition Hall C.

ONLINE ENTRIES

Entries can be submitted online. Please log-in to Fairentry with your 4-Honline credentials, you do not need to create an account to submit 4-H Still Exhibit entries. During Still Exhibit Drop-Off on Tuesday, August 4th, entry form and entry tags will already be printed and provided to the department superintendent.

If you would like assistance with submitting your entries online, please contact Phoebe Jud.

IN PERSON ENTRIES

If you would rather not submit your entries online, you can submit your entries in person on Tuesday, August 4 from 10 a.m. to 7 p.m.

ENTRY DROP OFF

Entries can be dropped off on Tuesday, August 4 from 10 a.m. to 7 p.m.

GENERAL INFORMATION

1. Items entered on display must stay in the 4-H Designated Area the entire time of the Clark County Fair. **Release time is Sunday, August 16 after 10 pm and Monday, August 17 between 9 am & noon.** If you are unable to be there at that time, please make arrangements to have your exhibits picked up. Some 4-H exhibits will be taken back to the 4-H Office-check first 564-397-5730.

2. **Entries will be accepted in the 4-H Still Exhibit Area in Exhibition Hall C on Tuesday, August 4 from 10 a.m. to 8 p.m.** Interview judging will be available to 4-H members at the time exhibits are entered if a judge is present in that department. Interview judging is a learning opportunity for 4-H members through feedback on his/her exhibit. Members may select one item per department for interview judging. For further information, (i.e. times and dates), about interview judging in various departments, contact the superintendent listed in the Exhibitor Handbook.

3. **4-H members may only exhibit items in 4-H projects they are enrolled by the first business day of May. (Superintendents will consult with the 4-H Office in the case that 4- H projects and 4Honline project categories are not clearly connected.)**

4. Pre-registration forms for 4-H County Fair Activities will be available at the WSU/Clark County Extension 4-H Program office or online http://extension.wsu.edu/clark/4hyouthfamilies/clarkcountyfair/ and due at the same location by the last business day of June. (Or online at Fairentry.com, call 564-397-5730 with questions.) Members will participate in activities at assigned times, bringing all materials and supplies needed. Participants must arrive at the activity and be prepared to participate at the assigned time. Failure to start at the assigned time may result in forfeiture of time slot, being moved to another time allocation, and/or having the final ribbon lowered at least one placing. Judges will evaluate member at the time of the activity. Judges' decision is final.

5. Prior to Clark County Fair 4-H participants will be emailed date and time of chosen activity and directed to the site for 4-H worksheets required by some 4-H Activities, once pre- registration is complete. These worksheets must be completed and handed to the superintendent before the start of the activity. **They are to be completed in members' handwriting, or typed by youth**. Incomplete or missing worksheets may result in the lowering of ribbon color at least one placing for the activity. Any photos required for the activity will be attached to the worksheet when it is turned in. Activity worksheets can be found at: http://extension.wsu.edu/clark/4hyouthfamilies/clarkcountyfair/

6. Building Security - Any parent and/or leader, whose child is enrolled in projects displayed or activities in the 4-H Still Exhibit Area (Exhibition Hall C) must sign up for a security shift. Sign up on Tuesday, August 4th (Entry Day) from 10 am-8 pm.

4-H STATE FAIR

4-H Still Exhibits/4-H Activities are required to sign up online and all projects to State Fair Coordinators no later than Monday, August 17 by noon. Coordinators will be present from 9 am - Noon on Monday.

4-H State Fair paperwork may done online once judging is complete and exhibit qualifies.

Deadline for 4-H Still Exhibit entries exhibiting at 4-H State Fair: Monday, August 17 by Noon! Entries are received in the Clark County Event Center, Exhibit Hall C, State Fair Coordinator
No entries will be accepted after Noon.
Check the WA State Fair Exhibitor Handbook for Class & Lot information to complete paperwork.
http://4h.wsu.edu/statefair/

4-H ROBOTICS

Superintendent:

Brenda Johnson
(360) 606-9334

Assistant Superintendent:

Chris Sims
509-339-3148

Exhibits are entered on Tuesday, August 4, from 10 am to 7 pm at the Clark County Fair Grounds in the Event Center Exhibit Hall C – 4-H Still Exhibit Area.
The Robotics exhibits will be located/exhibited in Exhibit Hall C from August 7 - 16 during the Clark County Fair. Demonstrations will be throughout the day, a posted schedule will be in the 4-H Robotics area.

ONLINE ENTRIES

Entries can be submitted online. Please log-in to Fairentry with your 4-Honline credentials, you do not need to create an account to submit 4-H Still Exhibit entries. During Still Exhibit Drop-Off on Tuesday, August 4th, entry form and entry tags will already be printed and provided to the department superintendent.

If you would like assistance with submitting your entries online, please contact Phoebe Jud.

IN PERSON ENTRIES

If you would rather not submit your entries online, you can submit your entries in person on Tuesday, August 4 from 10 a.m. to 7 p.m.

ENTRY DROP OFF

Entries can be dropped off on Tuesday, August 4 from 10 a.m. to 7 p.m.

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 be held on Wednesday August 5 and Thursday August 6. Exhibitors who are demonstrating their robots for judging should sign up for a time to demonstrate on Still Exhibit Drop off Day, Tuesday August 4.

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, August 4th at the Clark County Fairgrounds, Event Center, Exhibit Hall C, 4-H Still Exhibit area.
3) All Robotic Project entries will be available for pick up on Sunday, August 16, from 10-11 p.m. or on Monday, August 17th from 9 a.m. to Noon (12 p.m.) in Exhibition Hall C
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 INDIVDUAL 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
D.

DIVISION 913: ORIGINAL ROBOT PROJECT BUILT BY AN INDIVDUAL (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 16th at 2:00 p.m. in Exhibition Hall C.
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