

# 2020 Fairfield County 4-H Project Guidelines Summer Judging

**Head****Heart****Hands****Health**

## Engineering & Environmental Science Projects

### Wednesday, July 15, 2020

**OSU Extension - Fairfield County**  
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**THE OHIO STATE UNIVERSITY**COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES

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Project Number and Name	Project Completion Requirements (See each project book for complete details)	County Requirements	Judging /Show
<b>About 4-H</b>			
<b>91 Discovering 4-H (B)</b>	Activities in 9 interest areas Project summary	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project  <b>No State Fair competition</b>	Wednesday, July 15 12:00-7:00 pm
<b>92 4-H Around the Globe (I) (new 2020)</b>	All seven activities, including the Talking It Over questions At least two learning experience At least two leadership/citizenship activities Project summary and project review	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	
<b>Horses</b>			
<b>173 Horseless Horse (B)</b>	Planning Your Project section At least 4 interest areas All recommended activities in your selected interest areas At least 2 organized activities At least 2 leadership/citizenship activities One-page report	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project  <b>No State Fair competition</b>	Wednesday, July 15, 12:00-7:00 pm Ag Center
<b>Companion Animals</b>			
<b>200 All About Dogs (B)</b>	All 8 activities and Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15, 12:00-7:00 pm No Dogs are brought to judging.
<b>Veterinary Science</b>			
<b>244 From Airedales to Zebras, Level 1 (B)</b>	Set goals and record project highlights At least seven activities each year At least 21 of the activities in three years Complete the "Whaddya Know?" survey before and after activities Project evaluation	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm
<b>245 All Systems Go! Level 2 (I)</b>	Set goals and record project highlights At least seven activities each year At least 21 of the activities in three years Complete the "Whaddya Know?" survey before and after activities Project evaluation	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	
<b>246 On the Cutting Edge, Level 3 (A)</b>	Set goals and record project highlights At least seven activities each year At least 21 of the activities in three years Complete the "Whaddya Know?" survey before and after activities Project evaluation	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	

Project skill level indicates the project's intended audience:

- B** = Beginning level—for members with little or no experience in a project area, or 8 to 10 years old
- I** = Intermediate level, for members with some experience in a project area, or 11 to 13 years old
- A** = Advanced level—for experienced members in a project area, or 14 or older
- X** = All levels—for all skill and age levels. Exceptions to these age guidelines are noted.

Appointments will be scheduled through 4-H Online.  
June 15th - July 8th

Project Number and Name	Project Completion Requirements (See each project book for complete details)	County Requirements	Judging /Show
<b>Science Fun</b>			
<b>490 Science Fun with Dairy Foods: The Case of the Missing Milk (B)</b>	All 6 activities At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>493 Science Fun with Kitchen Chemistry (B)</b>	All 11 experiments At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	
<b>500 Science Fun with Physics (B)</b>	All 12 experiments At least 2 learning experiences At least 2 leadership/citizenship activities Project Review	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	
<b>Aerospace Science: Rockets and Airplanes</b>			
<b>501 Rockets Away (2-Liter Bottle Rockets) (B)</b>	All 3 interest areas At least 2 organized project activities At least 2 leadership/citizenship activities Build and launch a 2-liter bottle rocket Project review	Completed project book and 2 liter bottle water rocket Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>502 Science Fun with Flight (B, ages 9-14)</b>	All 7 interest areas At least 2 learning experiences At least 2 leadership/citizenship activities Build a glider or flyer, or a plastic model airplane or jet Project review	Completed project book and model airplane or glider Display that fits in 3 foot area Fair exhibit should be a display relating to the project	
<b>503 Rockets Away (Solid-Fuel Model Rockets) (B)</b>	All 3 interest areas At least 2 organized project activities At least 2 leadership/citizenship activities Build and launch a solid-fuel model rocket from a kit Project review	Completed project book and solid fuel rocket, engine and recovery system Display that fits in 3 foot area Fair exhibit should be a display relating to the project	
<b>503M Solid-Fuel Rocketry Master (A)</b>	One major solid-fuel rocketry project At least 2 learning experiences At least 2 citizenship activities Project records including interview, budget, and photos Judging activity	Completed project book and solid-fuel rocketry master Display that fits in 3 foot area Fair exhibit should be a display relating to the project	
<b>Electric Radio-Controlled Vehicles</b>			
<b>504 Electric Radio-Controlled Vehicles (I)</b>	All 10 activities and 3 records Safety checklist At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book and vehicle Display that fits in 3 foot area Fair exhibit should be a display relating to the project Note: Radio controlled boats and airplanes are eligible for participation in Self-Determined class. No gas powered vehicles allowed.  <b>No State Fair competition</b>	Wednesday, July 15 12:00-7:00 pm Ag Center

Project Number and Name	Project Completion Requirements (See each project book for complete details)	County Requirements	Judging /Show
<b>Robotics</b>			
<b>507 Robotics 1 with EV3 (I)</b>	All 12 activities and Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book Demonstrate LEGO EV3 ability and bring test surface and print-out of program Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>508 Robotics 2: EV3N More (A)</b>	All 7 activities and Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book Demonstrate LEGO EV3 ability and bring test surface and print-out of program Display that fits in 3 foot area Fair exhibit should be a display relating to the project	
<b>512M Robotics Master (A)</b>	One major robotics project At least 2 learning experiences At least 2 citizenship activities Project records including interview, budget, and photos Judging activity	Completed project book For members who want to explore robotics with a different platform (not LEGOS®) Must bring own test platform to demonstrate their robot's task (less than 10 minutes) and print-out of program. Display that fits in 3 foot area Fair exhibit should be a display relating to the project	
<b>Bicycling</b>			
<b>517 Bicycling for Fun, Level 1 (B)</b>	At least 7 activities per year Complete the Bicycling For Fun Achievement Program on second year Complete Project Goals, Before and After, and Project Highlights sections	Completed project book Display that fits in 3 foot area Bring bicycle and helmet Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>518 Wheels in Motion, Level 2 (I)</b>		<b>No State Fair competition</b>	
<b>Electric</b>			
<b>527 Magic of Electricity, Level 1 (B)</b>	At least 7 activities per year (3 Required Activities and 4 Brain Boosters) At least 2 leadership experiences Planning Guide	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>528 Investigating Electricity, Level 2 (I)</b>			
<b>529 Wired for Power, Level 3 (I)</b>			
<b>530 Entering Electronics, Level 4 (A)</b>			
<b>531 Science Fun with Electricity (B)</b>	All interest areas Experiments and journals for each interest area At least 2 project activities At least 2 leadership/citizenship activities Project summary		
<b>Knots</b>			
<b>540 Not Just Knots (X)</b>	All 17 activities (including a capstone project) and all of the Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center You may be asked to identify and tie selected knots Judged as Junior & Senior Categories at State Fair

Project Number and Name	Project Completion Requirements (See each project book for complete details)	County/Judging Requirements	Judging /Show
<b>Small Engines</b>			
<b>541 Crank It Up, Level 1 (B)</b>	At least 7 activities each year in either main activities sections or Race Ahead sections Planning Guide	Completed project book Display that fits in 3 foot area about uses or small engines, small engine parts, tools or safety Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>542 Warm It Up, Level 2 (I)</b>	At least 7 activities each year in either main activities sections or Race Ahead sections Planning Guide	Completed project book Display that fits in 3 foot area about the different types and sizes, internal parts, specialized tools, compression, seasoning your engine or starting your own business. Fair exhibit should be a display relating to the project	
<b>543 Tune It Up, Level 3 (A)</b>	At least 7 activities each year in either main activities sections or Race Ahead sections Planning Guide	Completed project book Display that fits in 3 foot area about tearing down and rebuilding an engine Fair exhibit should be a display relating to the project	
<b>Energy</b>			
<b>550 Young Engineers in Solar Energy (I)</b>	All 9 activities and all of the Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book and capstone project Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>All Terrain Vehicles (ATV)</b>			
<b>555 ATV Safety (X)</b>	Safety pledge All 9 activities Practice pages Practice and riding record At least 2 learning experiences At least 2 leadership/citizenship activities	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project  <b>No State Fair competition</b>	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>Woodworking</b>			
<b>556 Measuring Up, Level 1 (B)</b>	At least 7 activities per year for up to three years At least 2 leadership experiences Planning Guide	Completed project book and project that displays what you have learned Display that fits in 3 foot area Fair exhibit should be a display relating to the project  <b>Note: Exhibitors that use tools that are listed for higher project classes than what they took will be evaluated only and not considered for awards. This is a safety issue.</b>	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>557 Making the Cut, Level 2 (I)</b>	At least 7 activities per year for up to three years		
<b>558 Nailing It Together, Level 3 (A)</b>	At least 4 woodworking leadership experiences Planning Guide		
<b>559 Finishing Up, Level 4 (A)</b>			
<b>560M Woodworking Master (A)</b>	One major woodworking project At least 2 learning experiences At least 2 citizenship activities Project records including interview, budget, and photos Judging activity		
<b>Welding</b>			
<b>573 Arcs and Sparks (I)</b>	Recommended number of areas, building skills, and developing knowledge questions for your year At least 2 organized project activities At least 2 leadership/citizenship activities Build at least 2 weldments/or other items in book One-page report	Completed project book and 2 projects, 1 recommended and 1 optional (would fit inside a 6'x6'x3' box, no larger than 8'x8'x20') All projects must be done using Shielded Metal Arc Welding (SMAW) Member must be able to move project with a hand dolly. Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center

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<b>The Natural World</b>			
<b>611 Explore the Outdoors (B)</b>	All 9 activities and Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project Review	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>612 Geology: Can You Dig It? (B)</b>	All 9 activities and Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project Review		
<b>617 Exploring Ponds (A)</b>	All 9 activities and Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review		
<b>620 Why Trees Matter (B)</b>	All 6 activities At least 2 learning experiences At least 2 leadership/citizenship activities Project review		
<b>621 Ohio Birds (X)</b>	All 5 interest areas At least 2 learning experiences At least 2 leadership/citizenship activities Observe and record at least 20 different bird species One-page summary	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>622 Trapping Muskrats in Ohio (I)</b>	All 7 activities At least 3 learning experiences At least 3 leadership/citizenship activities 2 of 3 projects for first year; 2 of 3 projects for second year A poster board		
<b>623 Outdoor Adventurer: Beginning Fishing (B)</b>	All 8 activities, including Talking It Over questions and the Fishing Log At least 2 learning experiences At least 2 leadership/citizenship activities Project review		
<b>624 Outdoor Adventurer: Intermediate Fishing (I)</b>	All 5 interest areas At least 2 learning experiences At least 2 leadership/citizenship activities Project review		
<b>641 Beekeeping Project and Record Book (X)</b>	Set at least 3 project goals and objectives At least 5 learning activities At least 2 learning experiences At least 2 leadership/citizenship activities Colony Care and Management section Beekeeping Record		
<b>Shooting Sports</b>			
<b>630 Safe Use of Guns (B)</b>	All 11 activities, including Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project <b>NOTE:</b> Guns, bows, arrows, ammunition and/or firearms of any kinds are <b>NOT</b> permitted at judging.	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>631 Basic Archery (B)</b>	All 6 interest areas At least 2 organized activities At least 2 leadership/citizenship activities Project review		



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<b>The Natural World</b>			
<b>644 Insect Adventures 1 (B)</b>	All 7 activities, including an insect collection (30 specimens) and Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project	Wednesday, July 15 12:00-7:00 pm Ag Center
<b>645 Insect Adventures 2 (I)</b>	All 8 activities, including an insect collection (40 specimens) and Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review		
<b>646 Insect Adventures 3 (A)</b>	All 7 activities, including an insect collection (50 specimens) and Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review		
<b>Gardening and Plant Science</b>			
<b>670 Canning and Freezing (I)</b>	All 7 activities At least 2 learning experiences At least 2 leadership/citizenship activities Project summary and project review	Completed project book Fair exhibit should be a display relating to the project May be judged at Summer Judging or at Fair, but only Summer Judging Participants are eligible for State Fair. All exhibits must be grown in the current year.	Wednesday, July 15, 12:00-7:00 pm Ag Center  <b>or</b> Entered under "crops" for Fair judging and will be display only, no interview Bring product to be judged/exhibited to the central crop exhibit area in the Ed Sands Building on Friday, Oct.9 or Sat. Oct. 10 during set-up times. See 4-H/FFA Crops
<b>671 How Does Your Garden Grow? (B)</b>	4 activities, plus activity 4a, 4b, or both At least 2 learning experiences At least 2 leadership/citizenship activities Project review	Completed project book Display that fits in 3 foot area Fair exhibit should be a display relating to the project May be judged at Summer Judging or at Fair, but only Summer Judging Participants are eligible for State Fair. All exhibits must be grown in the current year.	
<b>691 Grow Your Own Vegetables (B)</b>	All 11 activities (including growing vegetables) and Talking It Over questions At least 2 learning experiences At least 2 leadership/citizenship activities Project review		
<b>692 Growing with the Seasons (I)</b>	All 7 interest areas At least 2 organized activities At least 2 leadership/citizenship activities Maintain a minimum of 225 sq. ft. of gardening space Grow a minimum of 3 vegetable varieties for each growing season Project review		
<b>365.31 Self-Determined: Crops</b>	Using the Self-Determined Project Guide: Topic identification At least 3 areas of interest, each with at least 3 activities At least two learning experiences At least two leadership/citizenship experiences Project summary		