STEM DAY (Science, Technology, Engineering & Math)
Youth Center
Saturday, August 1, 2020
BOB HORTON, Assistant Superintendent

GENERAL GUIDELINES

1. Age of Participants:
   - Junior – (4-H Age 13 and under)
   - Senior – (4-H Age 14 and over)
2. Participation Guidelines:
   - No more than one participant in any one class will be allowed per county and no one individual may participate in more than one class
   - Winner of any one class in 2019 is not eligible to participate in the same class for 2020.
3. Type of Evaluation for Classes J-1 through J-14:
   - Participants will have a personal interview evaluation with a judge.
   - Judge will evaluate participant on the following basis (also see sample score sheet):
     50% Knowledge (Depth of project understanding)
     25% Interview (Ability to communicate project knowledge)
     25% Project Display/Exhibit (Application of project knowledge)
4. Participant to bring:
   - Completed project book.
   - Registration material provided by your County 4-H Professional.
   - A display representing their learning experience of the current project. The display, may be in addition to what was used either at local 4-H judging or at county fair and should be limited in size to what the participant can maneuver on his or her own. Because of space limitations each participant removes his/her display from the judging area when the interview is completed. The display does not need to be a tri-fold display board.
   - Refer to additional project requirements as listed in class list below.

CLASSES

Veterinary Science Division: For classes J-1 through J-3, follow information in general guidelines listed above.

J-1 From Airedales to Zebras Vet Science 1 (4-H 244)
J-2 All Systems Go! Vet Science 2 (4-H 245)
J-3 On the Cutting Edge Vet Science 3 (4-H 246)

Engineering and Food Science Division: For Classes J-4 through J-14, follow information in general guidelines listed above.

J-4 Rockets Away (Solid-Fuel Rockets) (4-H 503) – includes project interview and launch of solid fuel rocket. All launch equipment including prebuilt rocket and motor will be provided. Refer to the launch assessment score card for details.
J-5 Rockets Away (Bottle Rockets) (4-H 501) – depending on local conditions, participants may be asked to launch their 2-liter bottle rocket. If a launch is conducted, all launch equipment will be provided.
J-6 Solid Fuel Rocketry Master (4-H 503M) – includes project interview and launch of solid fuel rocket. All launch equipment including prebuilt rocket and motor will be provided. Refer to the launch assessment score card for details.
J-7 Science Fun with Flight (4-H 502)
J-8 Science Fun with Dairy Foods (4-H 490)
J-9 Science Fun with Kitchen Chemistry (4-H 493)
J-10 Robotics Master (4-H 512M) – Contestants are required to bring their own test surface to demonstrate their robot's completion of a task of their choosing (in less than 10 minutes) along with a printout of the program.
J-11 Robotics 1: With EV3 (4-H 507) – in addition to the interview, contestants will demonstrate their LEGO EV3 robot's ability to complete three or more of the tasks identified in Activity 12 of the 4-H 507 project book in less than 10 minutes. Contestants are required to bring their own test surface on which to demonstrate their robot's completion of these tasks along with a printout of the program.
J-12 Robotics 2: With EV3N More (4-H 508) – Contestants are required to bring their own test surface to demonstrate their robot's completion of a task of their choosing (in less than 10 minutes) along with a printout of the program.
J-13 Science Fun With Physics (4-H 500)
J-14 Young Engineers in Solar Energy (4-H 550)

AWARDS AND SPONSORS

1. All participants will receive a “Participation Award” sponsored by The Ohio State Fair.
2. Approximately the top 20% of individuals in each class will receive an “Outstanding of the Day” award sponsored by The Ohio State Fair.
3. One individual will be selected from the “Outstanding of the Day” award winners of each class to receive a clock trophy.
4. Awards will be presented at 4:30 p.m.

JUDGING SCHEDULE:

For classes J-1 through J-14, times listed below are for registration. The exact schedule of participation will depend on the number reporting at any one time. Member should check in at the 4-H registration desk in the Youth Center.

9:00 a.m.:	Clark, Delaware, Fairfield, Fayette, Franklin, Licking, Logan, Madison, Marion, Morrow, Muskingum, Pickaway, Union
10:00 a.m.:	Allen, Ashland, Champaign, Coshocton, Crawford, Greene, Hardin, Hocking, Holmes, Knox, Miami, Montgomery, Perry, Richland, Ross, Shelby, Vinton, Wyandot
11:00 a.m.:	Athens, Clinton, Guernsey, Hancock, Highland, Huron, Jackson, Medina, Morgan, Pike, Seneca, Stark, Summit, Tuscarawas, Warren, Wayne, Wood
1:00 p.m.:	Auglaize, Belmont, Butler, Carroll, Clermont, Darke, Erie, Hamilton, Harrison, Lorain, Monroe, Noble, Paulding, Portage, Preble, Putnam, Sandusky, Van Wert, Washington
2:00 p.m.:	Adams, Ashtabula, Brown, Columbiana, Cuyahoga, Defiance, Fulton, Henry, Gallia, Geauga, Jefferson, Lake, Lawrence, Lucas, Mahoning, Meigs, Mercer, Ottawa, Scioto, Trumbull, Williams

2019 CLASS WINNERS

J-01	From Airedales to Zebras (Vet Science 1)	Grace Burchfield, Mahoning
J-02	All Systems Go! (Vet Science 2)	Gemma Dotts, Tuscarawas
J-03	On The Cutting Edge (Vet Science 3)	Makayla Feldner, Noble
J-04	Rockets Away (Solid-Fuel Rockets) (4-H 503)	Tessa Wood, Portage
J-05	Rockets Away (Bottle Rockets) (4-H 501)	Jerrett Allison Coshocton
J-06	Solid Fuel Rocketry Master (4-H 503M)	Caden Sweeney, Fairfield
J-07	Science Fun With Flight	Gustav Gothberg, Shelby
J-08	Science Fun With Dairy Foods	Heath Snyder, Miami
J-09	Science Fun With Kitchen Chemistry	Ruth Brenneman, Allen
J-10	Robotics Master	James Horwitz, Geauga
J-11	Robotics 1: With EV3	Reese Calkins, Medina
J-12	Robotics2: EV3N More	Isabella Stang, Morrow
J-13	Science Fun With Physics	Avalon Havan, Pickaway
J-14	Young Engineers in Solar Energy	Sara Newsome, Highland

SAMPLE SCORE SHEET FOR 4-H STEM DAY, CLASSES J-1 THROUGH J-14

4-H STEM DAY

Evaluation Sheet

NAME: _____ EXHIBITOR NUMBER: _____
COUNTY: _____ CLASS: _____
AGE AS OF JAN. 1 (OF CURRENT YEAR): _____ PROJECT NAME: _____
YEARS IN 4-H: _____ YEARS IN PROJECT: _____

Brief description of what you brought today to display your project (i.e. poster, equipment):

_____

_____

Keep this sheet with you until the judge calls your exhibitor number.

Judging Guidelines	Excellent	Very Good	Good	Average
50% **Knowledge** – Depth of understanding of the basic concepts and information presented in the project book				
25% **Communication** - Ability to express project knowledge Communicates Appropriately Attitude During Interview Personal Appearance	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____
25% **Project Display/Exhibit** Completeness Accuracy and Neatness Originality, Creativity, Functionality Application of Knowledge	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____
Judge's Overall Rating (circle one)	Excellent	Very Good	Good	Average

Judge's Comments -
Strengths:

Area(s) for additional study:

White Copy - 4-H'er Yellow Copy – Judge

Launch Assessment Score Card

Using all equipment and materials provided, a contestant's ability to demonstrate safe and proper launch procedures will be assessed using the following criteria. These results will be combined with an interview judging score to determine Outstanding of the Day and Clock Trophy winners in Classes J-4 and J-6. In the event of inclement weather, all criteria up to but excluding launching the rocket will be assessed.

Points lost for each incident		Description	number of incidents	Totals
-1	Misfire	Rocket fails to Launch	0	0
-2	Recovery system Failure	Recovery system fails to Deploy	0	0
-2	Recovery system Damaged	Recovery wadding installed incorrectly or forgotten.	0	0
-5	Safety Issue	Launch rod cap not returned after launch.	0	0
-5	Safety Issue	Approaching the rocket on the launch pad without waiting 60 seconds after a Misfire.	0	0
-5	Safety Issue	Approaching the rocket on the launch pad without the safety key in your possession.	0	0
-2	Missed Question number 1	The Launch judge will ask two questions from the "Model Rocket Safety Code." This 11 item code can be found on the back page of your 503 project book or 503M project book	0	0
-2	Missed Question number 2		0	0

Possible Score	24
Deductions	
Final Score	