DEPARTMENT P01: MECHANICAL SCIENCE

Jr. Show Judging: Saturday, 8 a.m., Commercial Building
Exhibitors need not be present for judging, except for Computer Science.
Times subject to change. Please check leecountyfairgrounds.com or Lee Co. Fair & 4-H Show on Facebook for current information.

Superintendent: William Klein
Rules:

1. All health and general rules (pages 8 - 18) apply.
2. Re-check your entries Wednesday, July 22 at the Fair Office. This will help to eliminate any incorrect entries and ensure the smooth operation of shows.
3. All projects must be made by the exhibitor during the current year.
4. Table displays should be limited to 2' x 15" and posters to 22" x 30".
5. The Superintendent reserves the right to move projects into appropriate classes.
6. The Lee Co. Fair Association and or superintendents reserve the right to combine or eliminate classes that are lacking in number of entries.
7. Announcements or changes made prior to judging pre-empt information previously provided in the fairbook.

Entry Fees: $5.00 per class

Jr. Show Fair Entries may be submitted online after May 15.
Please check leecountyfairgrounds.com for more information.

SECTION P10—Aerospace

P0100 Model Rocketry

Exhibit one model rocket assembled by the exhibitor. The exhibit will be a static display. The model rocket should be in good flying condition. **DO NOT** include the rocket engine with your exhibit. The rockets will not be launched. Exhibitor *should* bring the printed directions for construction of the rocket.

P0102 Aerospace Display

Any exhibit related to aerospace that does not fit into above class. This may be an experimental or educational poster or display. Include an explanation of the display for public understanding. UAV projects should be entered in this class.

SECTION P30—Electricity

P0300 Electricity I

(Only direct current-battery-wiring and components may be used) Projects using paper clips, cardboard, thumbtacks, and brads are not to be exhibited. Exhibit a momentary switch, simple switch or basic circuit OR an electromagnet OR a galvanometer OR an electric motor. All projects must include a report explaining how the project was constructed and the principles demonstrated.

P0301 Electricity II

(Only direct current-battery-wiring and components may be used) Exhibit a circuit board, demonstrating parallel and series switches, including a circuit diagram OR 3-way OR 4-way switch circuit using DC/battery OR basic electrical device. All projects must include a written report, explaining how the project was constructed and the principles demonstrated.

JP0302 Electricity III

Exhibit a 120V lighting fixture or other appliance which used a switch; **OR** two electrical household circuits using 120V materials to comply with National Electrical Code, one with a simple on/off switch to control bulb, and one using 3-way switches to control light from two locations. All projects must include a written report, explaining how the project was constructed and principles for its operation.

SECTION P50—Small Engines

P0500 Display

Exhibit a display identifying different engine or lawn and garden equipment parts or a display showing the function of the various engine or lawn and garden equipment parts or a display identifying and explaining the function(s) of different specialty tools needed for small engine work.

Continued on next page

P0501 Maintenance

Exhibit a display that illustrates either routine maintenance procedures or diagnosing and troubleshooting specific problems with an engine.

P0502 Small Engine Makeover

Exhibit a small engine or piece of equipment that you have overhauled. If exhibit has gas in it, it must be displayed outdoors for fire safety purposes.

SECTION P60—Tractor

P0600 Beginning Tractor Care

Exhibit a display or poster that illustrates one of the following: tractor safety, care and maintenance, or a tractor as a valuable farm machine or another topic associated with tractors.

P0601 Intermediate Tractor Care

Exhibit a display or poster that illustrates one of the following: cause and prevention of rollovers, diagram of how an air cleaner works, diagram & identify an engine cooling system, or regulations for battery & oil disposal or another topic associated with tractors.

P0602 Advanced Tractor Care—I

Exhibit a display or poster that illustrates one of the following: wagon and bin hazards, diagram and identify open and closed hydraulic systems, mower types and safety features, conveyor types and safety features, or another topic associated with tractors.

P0603 Advanced Tractor Care—II

Exhibit a display or poster that illustrates one of the following: method of winterizing a tractor, chemical uses and required safety equipment, parts and process of internal combustion engine, procedure for cleaning and flushing tractor radiator, or another activity.

SECTION P70—Woodworking

Projects exceeding the class requirements may be moved by the superintendents and committee to the appropriate class. Please use suggestions as a guide to enroll in the correct class.

P0700 Woodworking I

Exhibit an item made of wood. The project should be made of not more than 5 cut pieces. The pieces should be cut by the exhibitor with a hand saw. Edges should be smoothed with a rasp. The pieces should be joined in butt joints. Wood glue and nails should be used to make the joints. The exhibit should be sanded and painted with a latex-based paint. Potential projects include: a picture frame, a napkin/letter holder, a flower box, or a box (without a lid).

P0701 Woodworking II

Exhibit an item made of wood. The project should be made of not more than 10 cut pieces. The wood chosen should be appropriate for end use of the item. The project must incorporate angled cuts, preferably some miter joints. The project should be sanded and finished with a finish appropriate for its end use. Nails and/or screws may be used. The exhibitor should write up a bill of materials for the project.

P0702 Woodworking III

Exhibit an item made of hardwood or plywood with a hardwood veneer. The exhibitor should write up a bill of materials for the project. The project should be stained. A varnish, polyurethane, or other sealant should be applied as appropriate for the end use. The project must incorporate one or more of the following features:

a) Hinge and/or Hasp
b) Dowel Joint, Dado Joint, Rabbet Joint, Tongue & Groove Joint, or Spline Joint
c) Laminating
d) Interlocking, Jigsaw Cut Piece

Continued on next page

P0703 Woodworking IV

Exhibit an item made of wood. A table saw should be used in the construction of the project. The exhibit should include the push stick that was used while operating the table saw. The finish should be appropriate for the end use. The project should include a bill of materials. The project must incorporate one or more of the following features:

a) Routed Edge
b) Dovetail Joint
c) Mortise and Tenon Joint
d) Veneer
e) Overlays or Inlays

SECTION P80—Computer Science

1. Exhibitors will be asked to explain their entry to the judge. Use of an actual computer is acceptable but not required. Neither the Lee Co. Fair Association or the Lee Co. Extension is responsible for a computer's safety. No phone lines or internet connections are available at the Lee Co. 4-H Center & Fairgrounds.
2. Any member found to be using computer software in a manner that infringes on copyright laws will be disqualified.

P0800 Beginning Computer Programming

Exhibit a simple program using Scratch (or other simple graphic programming language). The program should include 8 different commands including looping and getting input from the keyboard and mouse. All exhibits must include something visual, such as a poster or printed copy of a digital presentation, which will remain on display during the exhibition. Electronic equipment will only be used during your personal judging time and will not remain on display during the entire exhibit period.

P0801 Intermediate Computer Programming

Exhibit a program using Scratch (or other simple graphic programming) that you have downloaded from the internet and modified. Compare the two programs and demonstrate the changes you made to the original program; OR create an animated storybook using Scratch (or other simple graphical programming language). All exhibits must include something visual, such as a poster or printed copy of a digital presentation, which will remain on display during the exhibition. Electronic equipment will only be used during your personal judging time and will not remain on display during the entire exhibit period.

P0802 Advanced Computer Programming

Exhibit a video game you have created in Scratch (or other simple graphic programming). All exhibits must include something visual, such as a poster or printed copy of a digital presentation, which will remain on display during the exhibition. Electronic equipment will only be used during your personal judging time and will not remain on display during the entire exhibit period.

Premiums Paid	**1**	**2**	**3**	**4**
All Classes	$12.00	$10.00	$8.00	$7.00

Total Premiums offered: $703.00

Ribbons Presented:

1st thru 6th Place - Each Class Champion - Each Division