

2016

SCIENCE, ENGINEERING AND TECHNOLOGY

All exhibits must be labeled. Label each item with the exhibitor name, project division, exhibit class number and years in the project before entering at county fair. The name and county of each exhibitor should appear separately on the back of each board, poster or article and on the front cover of the notebooks so owner of exhibit may be identified if the entry tag is separated from the exhibit. Each individual is limited to one exhibit per class. All static exhibits must have received a purple ribbon at the county fair to advance to the State Fair.

Several classes require a display board which should be a height of 24 inches and not to exceed 1/4" in thickness. A height of 23 7/8" is acceptable to allow for the saw kerf (width) if two 24 inch boards are cut from one end of a 4' X 8' sheet of plywood. Nothing should be mounted within 3/4" of the top or bottom of the board. (Example: Woodworking & Electricity.)

Fabricated board such as plywood, composition board, or particle-type lumber may be used for demonstration displays.

Demonstration boards should be sanded and finished to improve their appearance. The finish on a demonstration board will be judged as a woodworking exhibit. Demonstration boards should include an overall title for the display, plus other necessary labeling.

Reports should be written using the scientific method whenever possible (background, the question or hypothesis, what you plan to do and what you did, method used and observations, results: what you learned. All reports should be computer generated and enclosed in a clear, plastic cover. The reports should be attached securely to the display.

4-H'ers can exhibit in only one level, and once they have progressed to a higher level they cannot exhibit or enroll in a lower project level. This does not apply to Aerospace Model Rockets Levels 3 and 4 and Woodworking Levels 3 and 4.

DIVISION — 890

SMALL ENGINES

Purple, \$4; Blue, \$3.50; Red, \$3; White, \$2.50

UNIT 1 — CRANK IT UP

H890001 Small engines display/item: Show an application of one of the concepts learned in the Crank It Up project. Examples include: small engine parts, tools, sources of power, lubrication, air filters, cooling systems, plugs and safety. Exhibit could be a poster display or an actual item.

UNIT 2 — WARM IT UP

H890002 Small engines display/item: Show an application of one of the concepts learned in the Warm It Up project. Examples include: comparison of engine oil types, transmissions or safety related to engines. Exhibit could be a poster display or an actual item.

UNIT 3 — TUNE IT UP

H890003 Engine display/item: Display/Item should exemplify one of the lessons learned in the Tune It Up project. Examples include: diagnostic tools, fuel systems, ignition systems. If a complete engine is exhibited it will not be started. However, display needs to report process of building/rebuilding engine and how/where engine will be utilized (i.e. lawn mower, weed eater, snow blower, etc.).

DIVISION — 891

RESTORED VEHICLE

Purple, \$4; Blue, \$3.50; Red, \$3; White, \$2.50

An entry in Class 891001 or 891002 must be approved by the county office at least five days before pre-entry of county fair to reserve space for the exhibit. A report must be included, covered by clear plastic, describing source, cost, repair parts list and what was done.

A before and after photo story should be included. It will be the exhibitor's responsibility to protect the display from the general public.

H891001 Automobile, motorcycle, tractor or multi-cylinder engine that has been restored and/or overhauled in a 4-H petroleum power project to original specifications.

H891002 Automobile, motorcycle, tractor or multi-cylinder engine that has been customized from original specifications.

DIVISION — 895

4-WHEELIN'

No longer a State Fair Entry

Purple, \$3; Blue, \$2.50; Red, \$2; White, \$1.50

H895001 Tool Box — Put together using guidelines from the 4 Wheelin' manual. Include a description of the kit's purpose and a list of individual contents.

H895002 4 Wheelin' Vehicle — The vehicle needs to be mounted on a ¾-inch-thick base that is equal to (or less than) 12 inches by 12 inches. Make the vehicle stable. Do not attach side boards or backdrops to the display.

A report, protected with a clear plastic cover, needs to be included with this exhibit and should include the following information:

1. Vehicle specification.
2. Results of driving, pulling and climbing tests.
3. Track diagram.
4. Pictures.

H895003 Track or Course Designs Drawing — Scale drawing to actual track or course design. Indicate the direction the course is used with arrows. Display on a 14-inch by 22-inch poster.

Purple, \$2; Blue, \$1.50; Red, \$1; White, \$0.50

H895004 Poster should exemplify one of the lessons learned in the 4 Wheelin' project. Posters can be any size up to 28 inches by 22 inches.

DIVISION 900

POWER OF WIND

*Denotes State Fair Entry

Purple, \$3; Blue, \$2.50; Red, \$2; White, \$1.50

*H900001 Engineering Notebook — Your engineering notebook may include sketches of designs, notes of engineering questions you have, or answers to questions posed within the project manual, pictures as you complete exercises within this project, or big ideas you have while participating in this project. The notebook submitted in this class should be a working engineering notebook, not a scrapbook, please include your name, county, and age on the front cover.

*H900002 Wind Poster — Poster should exemplify one of the lessons learned in the Power of Wind project. Posters can be any size up to 28 inches by 22 inches.

*H900003 Mini Turbine Blade Energy Display — Develop a pinwheel display that demonstrates the working power of wind. Follow guidelines on page 18 and 19 of your manual. Display should include a notebook description of the effectiveness of at least three different designs or materials. Please do not include pennies with your display.

*H900004 Wind Art or Literature Written Piece — Item should illustrate or represent wind turbines, wind power, or something from the power of wind curriculum. For examples a pinwheel or item may be original story or poem written by the exhibitor about wind.

*H900005 Wind as Energy Display — Item should be the original design of the 4-H'er. Include the item or a picture if item is in excess of 6 feet tall or 2 feet by 2 feet. Include a notebook of why the item was designed and how it harnesses the power of wind.

*H900010 Careers Interview — Interview someone who is working in the field of wind and research the career in wind. Interviews can either be written or in a multimedia format (CD/DVD). Written interviews should be in a notebook. Written reports should be 3 to 5 pages, double spaced, 12 point font, and 1" margins. Multimedia reports should be between 3 to 5 minutes in length.