

- An article made in the area of heating and cooling
- An article made in the area of lighting
- An article made in the area of electronics (advanced division electronic projects may contain and use molded plugs if they are part of the electronic kit)
- An article made in the area of power
- A written report on: consumer buying, better electrical methods, or electrical careers.
- A written notebook report with photos of individual steps (close-up) and overall work, illustrations, explanation of each step performed, explanation of overall work done, reasons for performing work, reasons for selecting materials used, list of materials used and prices (budget), schematics, etc. of electric project. This option allows you to use your imagination and complete any electrical project that you cannot physically bring to the fair to exhibit. You could wire a room in a house, the barn, outdoor lighting, indoor lighting, control systems, alarm systems, etc.
- Display board (no larger than 36"x36"x36") showing home wiring (3-way switch, 4-way switch, GFCI Grounding, Circuit Protection, etc.) or any topic covered in the Advanced Division manual.
- Create a video showing the work accomplished and skills learned. This video should include the same type of information as required in written notebook listed above. This video is to be no more than ten minutes in length and formatted as MP3 or MP4 and submitted on a thumb drive. This video can also be uploaded to a YouTube account with the video being made public and the link submitted for evaluation.

Attach to the exhibit any kit instructions or book/manuals if you feel they will help explain the operation of the exhibit. This may be important for advanced electronic projects.

If the exhibit is not a poster, attach a note explaining how it is to be used.



Small Engines

Judging - Thursday, July 2, at 3pm at the Fairgrounds; Home & Family Arts Building.

1 Champion from each level to State Fair

****Please also refer to the Policies and Procedures beginning on page 2 and the General Project Rules on page 20.***

Actual Engine Display Requirements for all 3 levels

- The actual small engine may be displayed.
- Must be mounted on a stable base no larger than 30" x 30".
- For safety reasons, all fluids (fuel and oil) must be removed.
- Note: It is strongly suggested that a notebook with details and pictures of what was done to the engine accompany the display.

Display Board Requirements

- No more than 36" wide x 24" deep and free standing
- 3-dimensional display
- All items to be securely fastened
- 4-H member's exhibit card to be secured in lower right hand corner

All posters, notebooks, and display boards must include a reference list indicating where information was obtained, giving credit to the original author, to complete the 4-H member's exhibit. This reference list should/might include web site links, people and professionals interviewed, books, magazines, etc. it is recommended this reference list be attached to the back of a poster or display board, be the last page of a notebook, or included as part of the display Visible to the public. A judge is not to discredit an exhibit for the manner in which references are listed.

Exhibits Level 1: Crank It Up! (Grades 3 -5)

Educational Display: Any educational display related to what you have learned in this project. Some possibilities of exhibits might include:

1. Picture poster showing what you have learned about small engines.
2. Display the basic tools needed to maintain a small engine.
3. An educational display related to what you have learned about two-cycle engines.
4. An educational display related to what you have learned about four-stroke engines.
5. An educational display showing proper maintenance and care of a lawn mower.
6. An educational display of proper safety labels and procedures for small engines.
7. Small engines parts display board with a brief explanation of the purpose of the parts and how they work.
8. Display related to some system that you learned about in small engines (filters, cooling, ignition, etc.)

Exhibits for Level 2: Warm It Up! (Grades 6 – 8)

Educational Display: Any educational display related to what you have learned in this project. Some possibilities of exhibits might include:

1. An educational display comparing the different types of engines.
2. An educational poster illustrating and explaining the internal parts of an engine.
3. An educational display showing how transmissions work.
4. An educational display showing how to conduct a compression check.
5. An educational display showing how to adjust a carburetor according to owner's manual instructions and in accordance with EPA regulations.
6. A display using a real small engine with a brief explanation showing steps in preparing a small engine for storage.
7. Carburetor parts display board with a brief explanation of the purpose of the parts and how they work together.
8. An income and expense record of your lawn mowing business, including costs, hours worked, pay for individual jobs, etc.

Exhibits for Level 3: Tune It Up! (Grades 9 -12)

Educational Display: Any educational display related to what you have learned in this project. Some possibilities of exhibits might include:

1. An educational display showing how to use diagnostic tools on small engines.
2. An educational display showing how to tear down and reassemble a small engine.
3. An educational display related to the electrical system of a small engine.
4. An educational display about emissions systems on small engines and future trends.
5. An educational display showing mower blade inspection and maintenance skills.
6. An educational display about careers in small engines.
7. An educational display about your work in finding resources about small engines on the Internet.
8. An educational display about trouble-shooting common problems with small engines.
9. An educational display about small engines designs.
10. An educational display related to what you have learned in this project.



Tractor

Judging - Thursday, July 2, at 3pm at the Fairgrounds; Home & Family Arts Building.

1 display for each level to State Fair



Contact project leader Doug Wise at tdwise76@yahoo.com for more information about the tractor project and contest!

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