

2017

### **SMALL ENGINES**

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

#### **UNIT 1**

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**

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**

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.).

### **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.

### **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.

### **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.

\*H900006 Alternative Energy – Poster should exemplify an alternative energy source besides wind. Posters can be any size up to 14" x 22".