

CLASS 3 - Solar as Energy Display - Item should be the original design of the 4-Her. Include the item, or a picture if item is in excess of 6' tall or 2' X 2'. Include a notebook of why the item was designed and how it harnesses the power of the sun. Examples include solar ovens, solar panels, etc. SF

CLASS 4 - Water as Energy Display - Item should be the original design of the 4-Her. Include the item, or a picture if item is in excess of 6' tall or 2' X 2'. Include a notebook of why the item was designed and how it harnesses the power of water. SF

CLASS 5 - Wind as Energy Display - Item should be the original design of the 4-Her. Include the item, or a picture if item is in excess of 6' tall or 2' X 2'. Include a notebook of why the item was designed and how it harnesses the power of wind. SF

CLASS 6 - Other Nebraska Alternative Energy - Notebook should explore Nebraska an alternative energy source besides wind, water, and solar power. Include information on type of power chosen, infrastructure for distribution, what resources are needed to create this alternative resource, cost of production, and potential uses of bio-products. SF

DEPARTMENT H, DIVISION 911 - WOODWORKING
Premiums: Purple, \$4.00; Blue, \$3.00; Red, \$2.50; White, \$2.00

One entry per each class. The name and county of each exhibitor should appear separately on the back of each board, poster or articles and on the front cover of the notebooks so owner of exhibit may be identified if the entry tag is separated from the exhibit.

Several classes require a display board which should be a height of 24 inches and not to exceed 1/4 inch in thickness. A height of 24 7/8 inches 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 INCH OF THE TOP OR BOTTOM OF THE BOARD.** 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 the demonstration board will be judged as a woodworking exhibit. Board 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.

Requirements: All articles exhibited must include a plan (with drawings or sketch or blueprints) stating dimensions and other critical instructions a builder would need to know how to build the project. Plans may include narrative instructions in addition to the dimension drawings and include any alterations to the original plan. Part of the score depends on how well the project matches the plans. If plans are modified, the changes from the original need to be noted on the plans. All plans used for making the article must be securely attached and protected by a clear plastic cover. Include a copy of the plans even if using plans from the manual.

All projects must have appropriate finish.

All outside projects **MUST** have entry tag and supporting information placed in a protective bag to prevent damage from weather events such as rain and be ATTACHED to projects with string, zip ties, etc.

One article from each of the following classes may be exhibited in the project taken. Label according to class number.

Measuring Up - Unit 1

CLASS 9 - Woodworking Article - Item made using skills learned in the Measuring Up project. Examples include: flower box, letter or napkin holder, picture frame or other. Plan used must be attached to article.

CLASS 10 - Woodworking Display - Display exemplifying one of the principles learned in the Measuring Up project. Examples include: butt joint, measuring, sanding.

Making The Cut - Unit 2

CLASS 11 - Woodworking Article - Item made using skills learned in the Making The Cut project. Examples include: letter or napkin holder, birdhouse, foot stool or other. Plan used must be attached to article.

CLASS 12 - Woodworking Display - Display exemplifying one of the principles learned in the Making The Cut project. Examples include: wood types, angle cutting, liquid finisher.

Nailing It Together - Unit 3

CLASS 1 - Woodworking Article - Item should be made using either joints, hinges, dowels, or a dado joining made using skills learned in the Nailing It Together manual. Item is required to be appropriately finished. Examples include: bookcase, coffee table, end table or other. Plan used must be attached to article. SF

CLASS 2 - Woodworking Display - Display exemplifying one of the principles learned in the Nailing It Together project. Examples include: measuring angles, wood lamination and joint types. SF

CLASS 3 - Recycled Woodworking Display - Article made from recycled, reclaimed or composite wood. Article must be appropriately finished and/or sealed and utilize one or more woodworking techniques from **page 2 of the Unit 3** manual. Exhibit must include the woodworking plan and a minimum one page report of how the engineering design process was used to develop the woodworking plan. SF

Engineering Design Process:

- 1) State the problem (Why did you need this item?)
- 2) Generate possible solutions (How have others solved the problem?
What other alternatives or designs were considered?)
- 3) Select a solution (How does your solution compare on the basis of cost, availability, and functionality?)
- 4) Build the item (What was your woodworking plan, and what processes did you use to build your item?)
- 5) Reason for article finish (What type of finish, how did you finish or why you choose this finish?)
- 6) Evaluate (How does your item solve the original need?)
- 7) Present results (How would you do this better next time?)

CLASS 4 - Composite Wood Project - 60% of the project must be wood and 40% made from other materials such as metal, rubber, resin, etc. All plans and plan alternations must be attached to the article. Protect plans with a cover. If project is designed to be outside, it is required to have

appropriate outdoor finish because project may be displayed outside. SF

CLASS 5 - Outdoor Wood Project made with Treated Wood - Treated wood projects DO NOT have to have a finished coating. All plans and plan alternations must be attached to the article. Protect plans with a cover, if project is designed to be outside. Examples include: picnic tables, planters, outdoor furniture, etc. SF

Finishing It Up - Unit 4

CLASS 6 - Woodworking Article - Item made using skills learned in the Finishing It Up project. Examples include: dovetailing, making a pen using lathe, overlays, using a router, etc. Item is required to be appropriately finished. Plan used must be attached to article. SF

CLASS 7 - Woodworking Display - Display exemplifying one of the principles learned in the Finishing It Up project. Examples include: career opportunities, types of finishes, or dovetailing. SF

CLASS 8 - Recycled Woodworking Display - Article made from recycled, reclaimed or composite wood. Article must be appropriately finished and/or sealed and utilize one or more woodworking techniques from **page 2 of the Unit 4** manual. Exhibit must include the woodworking plan and a minimum one page report of how the design and engineering process was used to develop the woodworking plan. SF

- 1) State the problem (Why did you need this item?)
- 2) Generate possible solutions (How have others solved the problem?
What other alternatives or designs were considered?)
- 3) Select a solution (How does your solution compare on the basis of cost, availability, and functionality?)
- 4) Reason for article finish (Why type of finish, how did you finish or why you choose this finish?)
- 5) Build the item (What was your woodworking plan, and what processes did you use to build your item?)
- 6) Evaluate (How does your item solve the original need?)
- 7) Present results (How would you do this better next time?)

DEPARTMENT H, DIVISION 920 - WELDING

Premiums: Purple, \$4.00; Blue, \$3.00; Red, \$2.50; White, \$2.00

One entry per each class. The name and county of each exhibitor should appear separately on the back of each board or article so owner of exhibit may be identified if the entry tag is separated from the exhibit.

All metal welding processes accepted. All welds exhibited in class 1 or 2 must be mounted on a 12" high x 15" long display board of thickness not to exceed 3/8". Attach each weld on a wire loop hinge or equivalent, so the judge can look at the bottom side of the weld when necessary. Each weld should be labeled with information stating (1) type of welding process (stick, MIG, TIG, Oxy-Acetylene, etc.) (2) kind of weld, (3) welder setting, (4) electrode/wire/rod size, and (5) electrode/wire/rod ID numbers. **Attach a wire to display board so it can be hung like a picture frame. No picture frame hangers accepted.** If no plans are included with welding article or welding furniture, item will be disqualified.

CLASS 1 - Welding Joints - a display of one butt, one lap and one fillet weld. SF