STEM Woodworking

In this category 4-H'ers have the opportunity to create exhibits about varying levels of woodworking. In addition, participants can also create informational exhibits about their woodworking projects. Through involvement in this category 4-H'ers will be better educated about the topic and better their woodworking skills. For more resources and materials in this category refer to the resource section at the bottom of the page.

Rules

1. 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 the exhibit may be identified if the entry tag is separated from the exhibit.

2. 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 and 4-Her's name & county. Plans may include narrative instructions in addition to the dimension drawings and include any alternations to the original plan. Part of the score depends on how well the project matches the plans. If the 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.

3. 4-H'ers must be in Unit 3 or Unit 4 for the exhibit to be considered for State Fair. All projects must have appropriate finish.

4. If the project (i.e. picnic tables, wishing wells, swings, chairs, bridges, doghouses, etc.) is designed to be used outside, it will be displayed outside.

5. 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.

Eligibility - All static exhibits must have received a purple ribbon at the county fair to advance to the State Fair.

Quota - Maximum of 1 entry per class. Each individual is limited to one exhibit per class.

Scoresheets, forms, contest study materials, and additional resources can be found at http://go.unl.edu/ne4hwoodworking.

Divisions - Finishing Up: Unit 4

- **H911006 - Woodworking Article** - (SF91) 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.
- **H911008 - Recycled Woodworking Display** - (SF91) 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. 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 (What 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?)

Rules
Nailing it Together: Unit 3

- **H911001. Woodworking Article -** (SF91) - Item should be made using either joints, hinges, dowels, or a dado joining made using skills learned in the Nailing It Together manual. The item is required to be appropriately finished. Examples include bookcase, coffee table or end table.
- **H911003. Recycled Woodworking Display -** (SF95) – 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. 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?)
- **H911004 - Composite Wood Project** - (SF284) - 60% of the project must be wood and 40% made from other materials such as metal, rubber, resin, etc. All plans and plan alterations must be attached to the article. Protect plans with a cover. If a project is designed to be outside it is required to have an appropriate outdoor finish because project may be displayed outside.
- **H911005 - Outdoor Wood Project made with Treated Wood** - (SF97) - Treated wood projects DO NOT have to have a finished coating. All plans and plan alterations must be attached to the article. Protect plans with a cover. If the project is designed to be outside. Examples include picnic tables, planters, outdoor furniture, etc.
- H911006 – Wood Projects created on a Turning Lathe - (SF) - Article is the object created from spinning wood on a turning lathe. Article must be appropriately finished and/or sealed. Exhibit must include plans detailing design and process of completion, any changes made to the design, details of finishing techniques, and other relevant information about the article. Must include a description of tools used.

Rules

Resources

STEM: Woodworking

Develop skills such as measuring, squaring and cutting a board, driving nails, and using clamps and screws; Build a picture frame, a letter holder, a box, or an airplane; Measure , cut, sand, drill, and use advanced hand and power tools; Apply paint and use bolts and staples; Build a sawhorse, birdhouse, tool box, or a stool; Practice measuring angles, cutting dado and rabbet joints; Use a circular saw, a table saw, and a radial arm saw; Sand and stain wood
URL: https://4hcurriculum.unl.edu/index.php/main/program_project/144