

# SCIENCE, ENGINEERING & TECHNOLOGY DEPARTMENT H

☛ ALL STATIC EXHIBITS MUST HAVE RECEIVED A PURPLE RIBBON AT THE COUNTY FAIR TO ADVANCE TO THE STATE FAIR.

## GENERAL INFORMATION

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.

Several classes require a display board which should be a height of 24" 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, Small Engines, & 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.

## WOODWORKING

Department H - Section 911  
Premium Schedule B

The ability to build objects as designed by another person is an important life skill. Professional woodworkers often are hired to build objects to exacting specifications as laid out in a written plan.

**Requirements: All articles exhibited must include a plan (with drawings or sketch or blueprint) 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. 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. 4-H'ers must be in Unit 3 or Unit 4 for the exhibit to be considered for State Fair.

WORKING WITH WOOD & TOOLS - Unit 1

904. **Ten sample blocks of different kinds of wood** - Each sample must have a surface size of 2 1/2" by 6"; wood used must be 3/8" to 5/8" thick, mounted firmly on the demonstration board. Each sample must be identified with the following information: 1) Kind of wood, 2) where grown, 3) main use or uses. Mount on board 24" high x 22"

wide, not over 1/4" thick rigid-type material. Other articles related to woodworking can be displayed but will require a sample of at least 10 units. These might include types of wood fasteners, types or grades of sandpaper, types of wood finishes, etc. Each sample should be clearly identified with the following information: 1) the kind, type or grade, 2) where or why it is used, and 3) the importance of these units in woodworking.

911. **First Woodworking Article** - Item made using skills learned in the Measuring Up Project Guide. Examples include: recipe holder, stilts or other skill level appropriate item. Items should be entered with construction plans.
912. **Second Woodworking Article** - Item made using skills learned in the Measuring Up Project Guide. Examples include: recipe holder, stilts or other skill level appropriate item. Items should be entered with construction plans.
913. **Third Woodworking Article** - Item made using skills learned in the Measuring Up Project Guide. Examples include: recipe holder, stilts or other skill level appropriate item. Items should be entered with construction plans.

#### MAKING THE CUT - UNIT 2

914. **Woodworking Article** - Item made using skills learned in the Making the Cut project guide. Examples include: birdhouse, foot stool, napkin or letter holder. Items should be entered with construction plans.
915. **Second Woodworking Article** - Item made using skills learned in the Making the Cut project guide. Examples include: birdhouse, foot stool, napkin or letter holder. Items should be entered with construction plans.

4-H'ers must be in their third year of woodworking for exhibit to be considered for State Fair.

#### NAILING IT TOGETHER – UNIT 3

- \*1 **Woodworking Article- (Nailing It Together)** Item made using skills learned in the Nailing it Together manual. Examples include: bookcase, coffee table or end table.
- \*2 **Woodworking Display (Nailing it Together)-** Display exemplifying one of the principles learned in the Nailing it Together Project. Examples include: measuring angles, wood lamination and joint types.

#### FINISHING UP – UNIT 4

- \*3. **Recycled Woodworking Display- (Nailing it Together)** Article made from recycled, reclaimed or composite wood. Article must be sanded and 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  
State the problem (Why did you need this item?)  
Generate possible solutions (How have others solved the problem? What other alternatives or designs were considered?)  
Select a solution (How does your solution compare on the basis of cost, availability, and functionality?)  
Build the item (What was your woodworking plan, and what processes did you use to build your item?)  
Evaluate (How does your item solve the original need?)  
Present results (How would you do this better next time?)
- \*4. **Woodworking Article—(Finishing Up)** Item made using skills learned in the Finishing it Up Project. Examples include: dovetailing making a pen using lathe, overlays, using a router, etc.
- \*5. **Woodworking Display - (Finishing Up)** Display exemplifying one of the principles learned in the Finishing It Up Project. Examples include: career opportunities, types of finishes, or dovetailing.
- \*6. **Recycled Woodworking Display—(Finishing Up)** – Article made from recycled, reclaimed or composite wood. Article must be sanded and 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.  
State the problem (Why did you need this item?)  
Generate possible solutions (How have others solved the problem? What other alternatives or designs were considered?)  
Select a solution (How does your solution compare on the basis of cost, availability, and functionality?)  
Build the item (What was your woodworking plan, and what processes did you use to build your item?)

Evaluate (How does your item solve the original need?)

Present results (How would you do this better next time?)

- \*10. **Careers Interview** - Interview someone who is working in the field of woodworking and research that career. Interviews can either be written or in a multimedia format (CD/DVD). Written interview 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.