

## WOOD SCIENCE

State Fair Entries: One per level

References:	BU-6875	Measuring Up (grades 3-4)
	BU-6876	Making the Cut (grades 5-6)
	BU-6877	Nailing It Together (grades 7-9)
	BU-6878	Finishing Up (grades 10-12)

### Wood Science Level 1 - Measure Up (grades 3-4)

#### Project Completion Recommendations

Complete the activities as indicated in the manual or as specified by the County Extension Office.

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.

#### Exhibit

Exhibit one article of choice made during the current 4-H program year demonstrating a minimum of five (5) techniques outlined in the Indiana 4-H Woodworking Tools, Techniques and Skills Chart 4-H 6875C-W. Exhibits may also include higher level techniques that have been mastered. Any higher level techniques will not be counted as part of the minimum five, but nevertheless will be evaluated for quality. A woodworking skills sheet is to be submitted with the exhibit for judging.

OR

- Exhibit a poster on any topic covered in the Level 1 manual.

### Wood Science Level 2 - Making the Cut (Grades 5-6)

#### Project Completion Recommendations

Complete the activities as indicated in the manual or as specified by the County Extension Office.

#### Exhibit

Exhibit one article of choice made during the current 4-H program year demonstrating a minimum of five (5) techniques outlined in the Indiana 4-H Woodworking Tools, Techniques and Skills Chart 4-H 6875C-W. Exhibits may also include higher level techniques that have been mastered. Any higher level techniques will not be counted as part of the minimum five, but nevertheless will be evaluated for quality. A woodworking skills sheet is to be submitted with the exhibit for judging.

OR

- Exhibit a Poster on any topic covered in the Level 2 manual.

### Wood Science Level 3 -Nailing It Together (Grades 7-9)

#### Project Completion Recommendations

Complete the activities as indicated in the manual or as specified by the County Extension Office.

#### Exhibit

Exhibit one article of choice made during the current 4-H program year demonstrating a minimum of five (5) techniques outlined in the Indiana 4-H Woodworking Tools, Techniques and Skills Chart 4-H 6875C-W. Exhibits may also include higher level techniques that have been mastered. Any higher level techniques will not be counted as part of the minimum five, but nevertheless will be evaluated for quality. A woodworking skills sheet is to be submitted with the exhibit for judging.

OR

- Exhibit a poster on any topic covered in the Level 3 manual.

### Wood Science Level 4 - Finishing Up (Grades 10-12)

#### Project Completion Recommendations

Complete the activities as indicated in the manual or as specified by the County Extension Office.

#### Exhibit

Exhibit one article of choice made during the current 4-H program year demonstrating a minimum of five (5) techniques outlined in the Indiana 4-H Woodworking Tools, Techniques and Skills Chart 4-H 6875C-W. Exhibits may also include higher level techniques that have been mastered. Any higher level techniques will not be counted as part of the minimum five, but nevertheless will be evaluated for quality. A woodworking skills sheet is to be submitted with the exhibit for judging.

OR

- Exhibit a poster on any topic covered in the Level 4 manual.

Youth and their mentor/volunteer leader/instructor should use this chart as a guide when deciding appropriate tools and skills to use and incorporate in a woodworking exhibit. While this list is a guide, it is not meant to be an all-inclusive list and youth should demonstrate skills they are most comfortable mastering with tools used. For example, some youth in level 2 might feel comfortable attempting level 3 tools/skills, but it is unlikely that a level 1 exhibitor will be able to successfully master the level 4 tools/skills. Youth are encouraged to utilize a number of resources such as web sites, print material, social media, and television shows when learning woodworking skills. Skills learned from these types of resources may be demonstrated provided they are age/grade appropriate.

The "X" indicates suggested level to learn respective skill. Exhibits must include a minimum of 5 techniques from their level indicated in the chart below but may include additional techniques from other levels as deemed appropriate, but nevertheless will be evaluated for quality. For example, Level 3 exhibitors may use any techniques found in Level 1 or Level 2 but the exhibit must include a minimum of 5 Level 3 techniques. Level 4 may use any techniques found in the lower three levels but must have a minimum of 5 Level 4 techniques.

SKILL	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
<b>SAFETY (Required of all levels and not counted as a Skill or Technique)</b>				
Ear Protection	X	X	X	X
Eye Protection	X	X	X	X
Shop Organization	X	X	X	X
Machine Guards	X	X	X	X
<b>LAYOUT</b>				
Ruler	X			
Tape Measure	X			
Square	X			
<b>COMMON TOOLS</b>				
Hammer	X			
Handsaw	X			
Coping Saw	X			
Scroll Saw	X			
Screw Driver	X			
Wood Chisel	X			
Pliers	X			
Hand Plane		X		

SKILL	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
<b>POWER TOOLS</b>				
Band Saw	X			
Table Saw		X		
Electric Drill		X		
Radial Arm Saw			X	
Circular Saw			X	
Planner				X
Lathe				X
Jointer				X
Miter Saw				X
<b>MATERIAL SELECTION</b>				
Wood	X			
Wood Products	X			
Plywood	X			
Fiberboard	X			
<b>JOINTS</b>				
Lap Joint	X			
Butt Joints	X			
Bisect Joints		X		
Doweled Joints		X		
Mortise and Tennon Joints			X	
Dado Joints			X	
Miter Joint				X
Dovetail Joints				X
<b>TABLE ROUTING</b>				
Bevels			X	
Dadoing			X	
Rabbeting			X	
Planning				X
Jointing				X
<b>FASTENERS</b>				
Screws	X			
Nails	X			
Bolting	X			
Gluing	X			
Pocket Hole Fasteners		X		
Brad Nailer				X
<b>FINISHING</b>				
Sanding	X			
Penetrating Finish	X			
Painting	X			
Varnishing		X		
Spraying				X
<b>FREEHAND ROUTING</b>				
Bevels			X	
Dadoing			X	
Rabbeting			X	
Planning				X
Jointing				X