



Level 4

National 4-H Curriculum  
BU-06878

# Finishing Up



## Woodworking Youth Activity Guide

Name \_\_\_\_\_

County \_\_\_\_\_



REVIEWED & RECOMMENDED  
National 4-H Curriculum



# Notes to the Helper

Thank you for helping youth learn and do woodworking activities in *Finishing Up*, the final level of curricula in *Woodworking Wonders*. As a helper, you're providing a valuable service to young people. Teens need the support of concerned adults. It is important for you to be a resource for teens as they learn how to use power tools and learn technical skills. The experiential learning process is the basis for this curriculum. It provides youth with an opportunity to learn by doing activities. While learning about woodworking, youth also learn vital life skills such as planning and organizing, communicating, decision-making, relating to others and learning to learn.

## Woodworking Wonder Series

This series uses four youth guides:

*Measuring Up*, for grades 2–4;  
*Making the Cut*, for grades 4–6;  
*Nailing It Together*, for grades 6–8;  
and *Finishing Up*, for grades 9–12.



The books were written for specific age groups, but they can be used, with the helper's discretion, with youth of different ages based on abilities and experience. Each of the books includes an achievement program. It is important that you encourage youth to complete the achievement program. Questions at the end of activities reinforce woodworking and learning skills plus suggest ways youth can apply these skills to other aspects of their lives. Helpers play a vital role in helping youth answer questions.

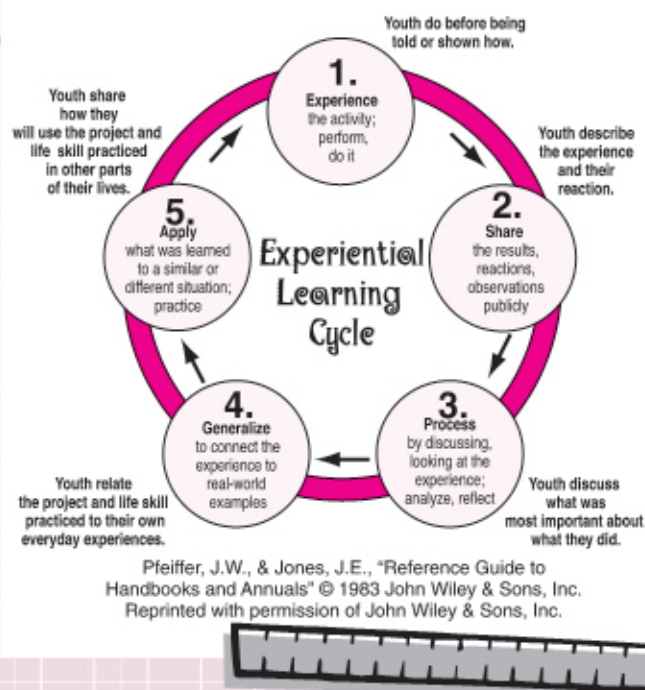
### • *Finishing Up*

This book is for youth who have a working knowledge of basic tools including a few power tools such as the jig saw, scroll saw, router, circular saw and oscillating sander. The book covers dovetail, mortise, and tenon joints plus exotic woods, veneers, inlays, overlays and finishing techniques. Safety is emphasized throughout the book.

### • *Woodworking Helper's Guide*

This book provides additional learning-by-doing activities that can be adapted for youth groups, classrooms or home learning. You'll find helpful information about characteristics of youth, life-skill development, experiential learning, meeting ideas and, of course, answers needed for the youth guides.

Figure 1. The Experiential Cycle



## Your Responsibilities

- Assisting youth as they complete the activities in this book.
- Directing youth to think through why something happens—or, why it didn't happen.
- Helping youth choose woodworking projects that are appropriate for their skill level.
- Helping youth do difficult tasks without doing it for them.
- Helping youth evaluate the quality of their work.
- Emphasizing safety rules for youth.

Your enthusiasm and encouragement will mean more to youth than you can imagine. Encourage youth to ask questions and see how they can apply new knowledge not only to woodworking, but also to their lives. With your help, youth can set goals, identify resources, practice communication skills and evaluate their own progress.

Each chapter is filled with activities so that youth can practice what they read. The lessons are short, but the activities may take some time. We encourage you to teach and practice all safety rules. The Experiential Learning Model is used to construct the curriculum (Figure 1). The idea behind the it is to help youth learn by doing. Research has found that experiential learning is one of the best ways to teach skills.

With that, we leave you to a task that will be a learning experience for you as well as the youth under your guidance.

## Acknowledgements

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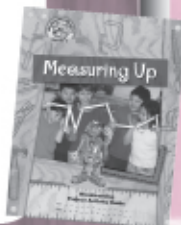
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For more on  
woodworking, look  
for these other  
guides in this set

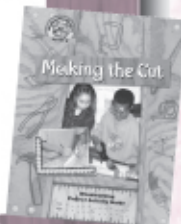
#### Measuring Up

Chapter 1 - Getting Started  
Finding Your Place  
Tools and Equipment  
Safety Is No Accident  
Chapter 2 - Working With Wood  
What's Wood?  
Chapter 3 - Practicing Your Skills  
Taking Measure  
Pounding Away  
I Saw, You Saw, Handsaw  
Chapter 4 - Making Connections  
Holding It Together  
Sticking Together  
Butting Up  
Chapter 5 - Finishing Up  
Sanding Tips  
Painting—The Finish  
Project Plans  
Flower Box  
Letter or Napkin Holder  
Picture Frame



#### Making the Cut

Chapter 1 - Getting Ready  
The Right Tools  
Safety First  
Exploring Woodworking Careers  
Non-Money Bills  
Chapter 2 - Starting With Wood  
Selecting a Project  
Species Makes a Difference  
Chapter 3 - Fitting Together  
Every Screw Needs a Screwdriver  
Combination Squares  
Cutting on the Angle  
Chapter 4 - Finishing Factors  
Rough Paper  
Pad Power  
That Liquid Finisher  
Brush Away  
Project Plans  
Napkin/Letter Holder  
Birdhouse  
Footstool



#### Nailing It Together

Chapter 1 - Careers in Woodworking  
What's the Latest?  
Careers You Can Choose  
Chapter 2 - Making Connections  
Hanging Around  
Clamping Techniques  
Connecting Rods  
Living on the Edge  
Dado Joints  
Chapter 3 - Finishing Flourish  
Staining  
Chapter 4 - Making a Mark  
Getting an Angle on  
Things  
Plan Magic  
Planes Away  
Chapter 5 - Is It Wood?  
Laminating Wood  
Plywood  
Project Plans  
Bookcase  
Jigsaw Puzzle  
A Box of Many Uses



#### Helper's Guide

Introduction  
Welcome to the Helper's Guide!  
Ages and Stages  
Developing Life Skills  
Defining Experiential Learning  
Chapter 1 - Woodworking Fun  
Making Meeting Plans  
Picnic Tables or Bird Houses?  
Center of Activity  
Woodworking Bingo  
Touring a Lumberyard  
Chapter 2 - More About Wood  
What Wood Would It Be?  
Public Performance  
Woodworking Skillathon  
Woodworking Promotion  
Chapter 3 - Woodworking Games  
Going Public  
Woodworking Pyramid  
Woodworking Quiz Bowl  
Glossary Games



Answer Key  
Meeting Ideas  
Shop Talk Glossary  
Resources



## Finishing Up

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# How This Book Works

Woodworking is a valuable skill that can enhance your life, be a hobby or provide you extra income. Woodworking is also an important job skill if you make it a career. There will inevitably be a need for builders and woodworkers. To get the most out of this book, familiarize yourself with how it is organized.

Each chapter teaches new woodworking skills or refines skills you have already acquired. After reading about a skill, you will practice it through the activities. Following the activities you will find questions that emphasize important points you've learned and help you think about how to apply the skills to other areas of your life.

Here are the categories you'll be seeing in the book:

What You'll Learn

About Woodworking:  
About Yourself:

**About Woodworking:** *this will be a skill you learn from the activity*

**About Yourself:** *this will be how you might apply the skill to your life*



## Toolbox

This will tell you what tools and supplies you'll need to complete the activity.



## Activities

Activities are usually a lot of fun because they let you learn by doing things yourself. You're required to do seven activities each year to complete the Achievement Record.



## Safety Rules or Tips

Clovers tell you to look for safety rules or tips that are necessary to keep you and others safe while doing activities and using tools.



## Talk It Over

Questions at the end of activities will help you think through what you've learned and how it applies to your life.

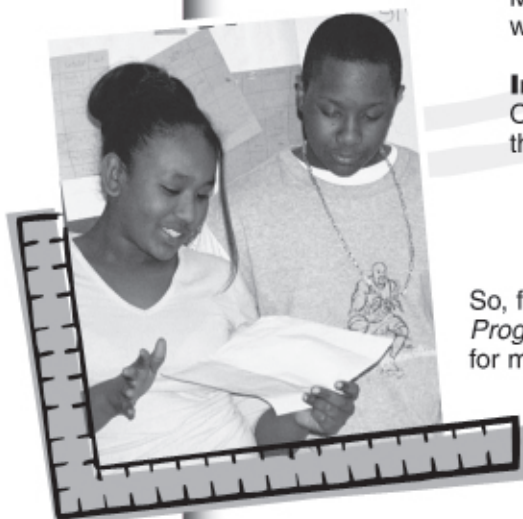


## More Challenges

More Challenges will give you ideas on how to learn more or how you can apply what you've learned to you or your community. More Challenges are optional, but you'll want to do some of them!

## Interesting Facts

Occasionally you'll see tidbits of information that will expand the lesson's information.



So, fill out *My Plans* and your *Achievement Program* on the next two pages and get ready for more adventures in Woodworking Wonders!

Finishing Up



# My Plans

Check these off as you complete them.

- ☐ Select your woodworking project helper, if you don't already have one.
- ☐ Complete the four steps on this page.
- ☐ Do at least four woodworking leadership experiences each year you use this book.
- ☐ Do at least seven activities each year you use this book. The activities are listed in the Achievement Plan on the next page.

Photo of my  
project helper

Name: \_\_\_\_\_

My project helper is: \_\_\_\_\_

Phone: \_\_\_\_\_ E-Mail: \_\_\_\_\_

## 1. Project Goals

I plan to make these woodworking projects while I use this book: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I plan to complete Finishing Up Achievement Program by (date) \_\_\_\_\_

## 2. Leadership Experiences

Experiences	Plan to do	Date
Give a woodworking demonstration.		
Write a newspaper or newsletter story about woodworking.		
Judge or assist judges at a woodworking competition.		
Give a speech at a community or service organization promoting woodworking.		
Conduct a woodworking workshop or project meeting.		
Help someone complete a woodworking project.		
Organize a community service project involving woodworking.		
Other activities		

## 3. Project Highlights

Record and date the most fun things you learn. Include what you make, repair, paint or refinish.

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## 4. Project Review

When you've completed *Finishing Up*, arrange a project review with your parent, guardian or woodworking helper. You'll need to have this page complete as well as the Achievement Program and the Talk It Over sections of this book.



- ☐ Do at least seven of the required activities each year you use this book, or 21 within three years.
- ☐ Complete some of the More Challenges.
- ☐ Have your woodworking helper initial the activities as you complete them.

- ☐ Select and do any of the More Challenges (Optional Activities) in *Finishing Up* or make up your own activities. Record the page and number of each one you complete. If you choose some of your own, write them down. Have your helper initial them.

Activities	Date Completed	Helper's Initials
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Looking Ahead
Me, an Entrepreneur?
The Price Must be Right
Marketing Creates Interest
Creating an Order

- A Ripping Good Time
- Making Push Sticks
- Edges and Grooves
- Power Cutting

Making a Dovetail Joint

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Blind Mortise and Tenon Joint

Researching Exotic Woods
Exotics in Use
Using Veneers
Making a Name

Power Sanding Action
The Name is Bond
Strip Ease



Activity	Page #	Date Completed	Helper's Initials
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[illegible]

Write your own activity here.

Date \_\_\_\_\_ Helper's Initials \_\_\_\_\_

Write your own activity here.

Date	Helper's Initials
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Write your own activity here.

Date	Helper's Initials
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Level 4



# Finishing Up



## Achievement Program Certificate

*I certify that*

*has successfully completed the requirements of the  
Finishing Up Achievement Program.*

*Helper* \_\_\_\_\_

*Date* \_\_\_\_\_



Picture of my woodworking  
project and me





## Planning and Doing

In this chapter you'll think about tools — those you have and those you would like. You'll also be introduced to entrepreneurship, a way to make your woodworking skills profitable.



## Tools for the Expert

Now that you are in the fourth level of *Woodworking Wonders* you probably feel that your woodworking skills are pretty good, or at least much better than they were. You, like most woodworkers, realize the value of the tools you have and you probably want to add to your tool cache so you can expand the range of what you can build. This activity encourages you to look at new technologies in tools, as well as safety features.

### Getting Started

Many new advances in tools and building materials are available to the woodworker. Many of the advances can be found in building products manufactured from wood. New plywood products or chip products are being made that increase strength and lower the price of materials. Also, veneer products are easier to use today than ever before. For instance, veneer is manufactured in convenient forms such as pre-glued edging. Advances have also been made in adhesives. Adhesives offer stronger and more waterproof bonding.

Cordless and powered tools were the last significant revolution in manufacturing tools. However, safety features are added regularly and ergonomic designs are becoming more common. Ergonomics is an applied science that takes into consideration how people use objects. The idea is to help people interact with an object in a most effective and safe manner. For instance, tool hammer handles may have soft rubber indentations that fit human hands and curves that make using them easier on the human body. Ergonomics is sometimes called human engineering.



About Woodworking: *explore the latest woodworking technology*  
About Yourself: *problem solving*



### Looking Ahead



*Catalogs, paper, pencil, Internet, woodworking magazines*

If money were not a limitation, what tools would you like to add to your collection of woodworking equipment? Look through woodworking magazines, Internet sites, catalogs or other research material and select your top five choices for tools you'd like to own and use. Dream big! Write your choices down and tape or glue pictures of the tools next to your choices. Also, make a note of safety features for each tool. Rank your choices from one to five.

In the space below, give your reasons for your rankings. For example, why is number one more important than number two? Share your choices and reasons with your teacher, class, family member or helper.

Explain your rankings:

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**Fifth Choice:** \_\_\_\_\_  
**Safety Features:** \_\_\_\_\_

[illegible]

What did you learn about problem solving that will help you in the future?



# Wood 'n Money

You can earn extra money by selling projects you make. You can become an entrepreneur, someone who organizes and manages his or her own business.

This activity will help you think about what you might make and sell on your own. You may be able to gain extra income now and perhaps a career later by considering the entrepreneurial aspects of woodworking.



About Woodworking: **starting your own business**  
About Yourself: **organizing, planning**



## Me, an Entrepreneur?

Here are some points that will help you decide if you want to become an entrepreneur:

- Will people buy my product?
- Do I have the ability, knowledge, and skill to make the product?
- Do I have the tools and space available to make the product?
- Do I have the time to make the product?
- Can I consistently make a quality product?
- Is my project original, or am I infringing on a copyright?

Next, make a list of products you could sell.

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Pencil and paper, desk or organizational area, file folders, tools according to product, notebook for outstanding orders, common office supplies, computer (if available)



## The Price Must be Right

For each project, consider cost. Over pricing means you won't sell the project; under pricing means you won't make a profit. Include the following when you determine a price for something you make:

- Materials for the project (wood, glue, sandpaper, paint, nails etc.)
- Tools involved
- Delivery of the product to a customer
- Office supplies (paper, envelopes, stamps, fliers, business cards etc.)

Once you have determined the basic cost of producing your product, factor in your personal production time and decide how much you want to make an hour. You will also need to research tax and business laws in your state.

Rank the list of possible projects you might sell from the list you made. Project a cost for each using the tips above.

Project to sell	Cost To Make	Projected Retail Cost





## Marketing Creates Interest

Entrepreneurs must know who their customers are. Your first customers might be family and friends. They may be more willing to buy your first products and can give you suggestions for improvement. Hopefully, friends and family members will tell others about your products. This is called word-of-mouth advertising. You can make a list of specific groups or organizations that might be interested in buying your products.

Marketing your products can include creating fliers and brochures to increase your business. Post them on public bulletin boards, or pass them out to people who seem interested.

Think of other ways to advertise your product and list them here:

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## Creating an Order

Use the following information to prepare a work order and an invoice:

*Your neighbor, Talisha Browning, visited your workshop last Monday afternoon and viewed the projects you make for sale. She selected a toolbox for her young nephew as a birthday present. She wants the toolbox to be painted red with the boy's name: Jackson. She wants it big enough to hold a small handsaw. Her nephew's birthday is in one month. Her address is 107 Krystal Lane. Her email is browning@anyplace.com. Her phone number is 814-000-4343. You have agreed to charge her \$20 for the project.*

### Work Order

### Invoice

## Taking Orders and Keeping Records

You'll need to know how to take orders to have a successful business. Follow these steps for completing an order:

- Check state and local laws on starting a home-based business. Attorneys can be a necessary part of the entrepreneurial process to protect personal and business assets.
- Develop an organizational system—you don't want to lose an order, nor do you want to have to search for records.
- Keep a record of customers' names, addresses, phone numbers and e-mail addresses so you can reach your customer in a number of ways. You might even collect birthdays (not years) and send cards to your customers.
- Keep detailed records of all expenses and sales.
- Discuss payment method. Be certain your customers know the cost of the product and when payment is due.
- It is good business to prepare a detailed invoice for customers. It should contain a description of the project; when delivery of the project occurred; the price of the project and any taxes that apply; and it should have your name, company name and address. Make sure you keep a copy for your records.
- Set a delivery time. Let your customer know when you will be able to have the order delivered. If they need it by a certain date, put it in your order book as a priority.
- Be prompt. Make sure you deliver on time. Nobody likes to wait. If the customer has any questions, respond as soon as you can. This is good customer relations.
- Be courteous and friendly. Thank your customer for the order.
- Smile and be conversational. Think of how you would like to be treated when you buy something. Look at customers as individuals and not just people who buy your products.



## TIPS for

### Woodworking Projects

- ✓ **BE OPEN TO NEW IDEAS** – Pay attention when others have a suggestion. Your goal is to make a product that others will buy.
- ✓ **CREATE SALE OPPORTUNITIES** – Look for craft shows, bazaars, consignment opportunities, garage sales and other places you could market and sell.
- ✓ **DON'T COMPROMISE QUALITY** – Produce a quality product. A reputation for quality will bring more sales.
- ✓ **TIME IS MONEY** – Look for ways to reduce production time and cost without reducing quality. Shop around for materials to make sure you are getting the best price. Don't forget catalogs and buying in bulk.



## Talk it Over

### Share it

What products are being sold in your community?  
Should you create a new product?

### Process it

Why is it important to use a work order?  
What is the value of using an invoice?

### Generalize it

Why are planning and budgeting important in a business?  
What is the significance of being organized?

### Apply it

Why is record keeping important for a business?



## More Challenges

1. Talk to your local Chamber of Commerce. How many entrepreneurial businesses exist in your community? What types of goods or services do they cover? Find out what laws pertain to creating a business in your community? Write down your findings and make a poster that illustrates the main facts you've found.
2. What is a business plan? Visit with local offices of the Small Business Development Organization and gather information about writing a business plan. What problems might a teenager encounter that an adult would not encounter? Organize your information and prepare a talk about it. The Chamber of Commerce might be interested in what you have to say!

*Choosing a good variety.*