

Solon Board of Education

Woodworking Module: Part One

Basis Woodworking Concepts

By: Mrs. Aughinbaugh



**Industrial
Technology
8th Grade**

Woodworking module

Day 1

Today's learning target

To clearly understand the safe use of all machines

To determine what you know about woodworking and what you want to know

Materials:	KWL	Journal	Vocabulary Page
	Scale Worksheet		Board Ft. Worksheet
	Pencil		Folder

- Fill out a K-W-L (Column one and two only)
 - Tell me what you already know about woodworking in column one
 - Tell me what more you want to learn in column two.
- Safety review
 - Go over the safety rules and make sure you have a signed copy on file in your folder

Words in **BOLD** are part of your vocabulary list

(Refer to your Project Outline card for exact words and recording space)

- **Scale** = size and proportion
 - If something is to scale then it is an exact replica of something else either several times smaller or several times larger.
 - Complete the Scale worksheet and put it in your folder when complete.
- **Board foot** = calculation you use to determine if you have enough wood for the project.
 - Complete the board foot worksheet and put it in your folder when complete.

Woodworking module

- *Waste* = This is the material left over from the project. For a project to be *economical* = waste needs to be kept to a minimum. No more than 10% waste.
- Define only the words you learned today.
- Write in your journal what you did today and review where you should start tomorrow.

Woodworking module

Day 2

Today's learning target

To review how to read a technical drawing and create pattern pieces for layout to ensure minimal waste.

Materials: Drafting Supplies

Folder/Pencil

Scissors

Drawings of Projects

Paper

T-Square/Triangles/Tape

Project Design

Pick one - your teacher has drawing for these projects.

- Gumball machine
- Basketball game
- Note holder
- You will need to pick one and create paper patterns of all necessary pieces to **layout** on the wood.
- Layout is when you move the patterns around on the wood to make sure to have minimal waste and are working within the **limitations** (what you can and cannot do in the creation process)
- Patterns also allow you to check measurements before you cut so you know they are correct.

Clean up all materials used. Put all tools back in their proper place.

Write in your journal what you did today and where you should start tomorrow.

Woodworking module

Day 3

Today's learning target

To learn how to layout a project on a piece of wood

Materials: Pencil	Wood	Folder
Drill Press	Band Saw	Scroll Saw

Project layout

*** PENCIL ONLY to transfer marks to wood ***

- Get the length of wood that you need from your teacher
- Measure and mark wood
- The longest part of each pattern must go with the grain line to ensure the most strength. Remember: Grain line is the natural lines that occur in the wood and show which direction the tree grew
- Always have all measurements checked (even if patterns have been checked) by teacher before you cut anything.
 - The golden rule of woodworking:
"Measure twice, cut once"
- If your project is ready for cutting have instructor check and discuss any parts that need a hole drilled.

Clean up all materials used and put tools away in their proper location.

Write in your journal what you did today and where you should start tomorrow.

Woodworking module

Day 4

Today's learning target

To learn how to properly mark and drill holes in project

Materials: Mallet Scratch Awl Ruler Pencil
 Drill Press Drill Bits Folder

- Marking holes
 - Find the point to which you need to drill
 - If it is in the center you can find center by taking a straight edge across opposite corners. Where the lines cross should be center.
 - Tap the center using a mallet and a scratch awl or center punch

- Drilling all holes
 - Sometimes it is easier to clamp a piece of wood to drill holes in a large section then when it is cut down
 - When all necessary holes are in place you can cut pieces to size.
 - Remember to cut with the saw just outside your drawn lines so you can sand to the lines to ensure exact measure.

Clean up all materials used

Write in your journal what you did today and where you should start tomorrow.

Woodworking module

Day 5

Today's learning target

To learn finishing techniques for a smooth and complete project

Materials: Files/Rasp
Folder

Sand paper
Pencil

Sanding block

- Filing and Sanding
 - All pieces should be smooth to the touch.
 - Maintain all edges to ensure proper connections.
 - Your wood should feel smooth on all sides
 - There should be no visible marks

****Sanding takes more than a few seconds.***

Start with a file and work your way to sand paper.

Abrasives should be worked from roughest to smoothest

Clean up all materials used

Write in your journal what you did today and where you should start tomorrow.

Woodworking module

Day 6

Today's learning target

To learn finishing techniques for a complete project

Materials: Tack Cloth	Finish (Stain, Pain, OR Polyurethane)	
Brushes	Paper Towel	Scrap blocks
Folder	Pencil	

Finishing

Before a finish can be applied to your project pieces use a **tack cloth** to remove any remaining dust or debris by wiping each piece down. If the cloth snags on any piece that part needs to be sanded again. Make sure all visible pencil lines have been removed.

Finish all connective pieces

Note: Stain or paint must be applied before Polyurethane seal
Use the **polyurethane** to seal your project
Place on paper towel with scraps of wood between paper towel and project for support
Brush all pieces with the large sponge brush
Move to project room and let dry over night
Wash brush with soap and water and put away finish
Complete tech terms on your sheet

Clean up all materials used

Write in your journal what you did today and where you should start tomorrow.

Woodworking module

Day 7

Today's learning target

To learn finishing techniques for a complete project

Materials: Steel Wool Tack cloth Polyurethane
 Paper Towels Scrap Blocks Folder/Pencil

Finishing part 2

- Go over all pieces with **steel wool**, an abrasive for smoothing between coats of finish, to remove all rough edges
- Wipe with tacky cloth again
- Finish all connective pieces with a second coat
- Set up with paper and blocks as you did in Day 6 directions
- Move to project room and let dry over night
- Wash brush with soap and water and put away finish
- Complete tech terms on your sheet

Clean up all materials used and place items back in their proper place.

Write in your journal what you did today and where you should begin tomorrow.

Woodworking module

Day 8

Today's learning target

To learn how to connect material to form a project

Material: Glue Wet paper towel Clamps
 Folder Pencil

Gluing

- Go over side two with steel wool and Tack Cloth if necessary
- Glue pieces together double check with instructor before any glue is applied
- Wipe any glue that seeps out with a wet paper towel
- Glue needs 10 minutes to set but 24 hours to be permanent

Clean up all materials used

Write in your journal what you did today and where you should start tomorrow.

Woodworking module

Day 9

Today's learning target

To learn how to make any touch up to a project to ensure its quality based on a rubric

Materials: glued project woodworking rubric
 Pencil Folder

Pulling the project together

- Make any final gluing for your project
- Go over the woodworking rubric to make sure your project meets all standards
- Make sure terms are done as well as journal.

Clean up all materials used

Write in your journal what you did today and where you should start tomorrow.

Woodworking module

Day 10

Today's learning target

Organization and submission of work

Materials: Folder Pencil All worksheets for this module
Outline card Journal Tech Terms sheet
KWL(with completed "L") Patterns Project

Due by end of period

REVIEW ALL WORK AND MAKE SURE IT IS COMPLETE.

If you need your vocabulary to study for tomorrows assessment have them graded before you leave so you can take them with you.

Make sure all work is organize and everything on outline card has been completed.

Turn in when done