MINI 4-H WOODWORKING

Name _____

Age _____ Years in Mini 4-H _____

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Mini 4-H'ers Page

Welcome to Mini 4-H! You are now a member of the 4-H family. You are a special person. Mini 4-H'ers have a lot of fun! There are many activities for you to explore and new things to try. You can share it with your family and friends. Mom, Dad or another adult can help you with your project. Bring your project to the 4-H fair so others can see what you have done. You also get a ribbon made just for Mini 4-H'ers. And most of all, Have FUN!

Here are some things to know about 4-H:

The 4-H symbol: The symbol is a four-leaf clover with an 'H' in each leaf. Clover is a plant which grows in fields, yards and along roadsides. Most clovers only have 3 leaves. If you look closely, you may get lucky and find a clover with four leaves. A four leaf clover is used as the symbol for 4-H to let everyone know 4-H is a special kind of group.

The 4-H Colors: The 4-H colors are green and white. The four leaf clover is green and the 'H' in the leaf is white.

The 4-H Motto: "To make the best better." When something is better than all of the others, it is the best. 4-H encourages you to always try to do better, even if you are doing the best you have ever done.

The 4-H Mission: The Indiana 4-H Youth Development Mission is to provide real-life educational opportunities that develop young people who positively impact their community and the world.

The 4-H Vision: Indiana 4-H Youth Development strives to be the premier, community-based program empowering young people to reach their full potential.

The 4-H Pledge: A pledge is a promise you make to yourself and to the people around you.

I pledge my HEAD to clearer thinking,
My HEART to greater loyalty,
My HANDS to larger service,
And my HEALTH to better living,
For my club, my community,
My country and my world.

Mini 4-H Helper's Page

Welcome to the Mini 4-H Program! Mini 4-H is designed for youth to explore a variety of project activity areas and to interact with caring adults and other children.

Children receive project manuals when enrolling in Mini 4-H. This manual and other manuals on various topics will provide fun, age appropriate learning activities throughout their year(s) in Mini 4-H.

As a Mini 4-H helper, your job will be to guide and encourage the Mini 4-H'er through the activities. A wide range of activities are provided to allow you to choose the one most appropriate for the child you are working with. It is highly suggested that you do not complete activities for them. Instead help them, guide them, work with them and let them do all they possibly can. 4-H believes in allowing children to learn by doing. The Mini 4-H project activities are hands-on learning opportunities designed to provide a meaningful educational experience for youth.

Additionally, the Mini 4-H program is set up to allow children to display a project activity based upon information in this manual. Some children choose to exhibit their project at the county 4-H fair. The 4-H fair is an exciting week for 4-H members and their families. It is a week that allows the community youth to showcase their enthusiasm for learning.

Mini 4-H is fun! Children will certainly enjoy it. And you can have fun too by guiding and helping as children participate in the program. Encourage and praise the child (ren) as they have fun learning and sharing with you. If you have any questions regarding Mini 4-H or other 4-H programs, please feel free to contact your local Extension office.

Mini 4-H Program Rules:

The Mini 4-H program is designed to supplement and introduce kindergarten students through second graders to the Decatur County 4-H program.

Rules

1. Mini 4-H is open to any boy or girl who is enrolled in kindergarten, first grade or second grade on January 1st of the current 4-H year.
2. Mini 4-H participants will enroll in a 4-H club when they register for Mini 4-H on the 4-H Online website, and can do their project(s) at home or at club meetings, receiving help from older 4-H members and leaders.
3. Mini 4-H'ers may enroll in any number of projects including Arts & Crafts, Collections, Dinosaurs, Bugs and many more. While 4-H encourages children to expand their knowledge of many subjects, try not to overwhelm a child with too many projects.
4. Mini 4-H participants will complete activities in their project book.
5. **ALL POSTER EXHIBITS MUST:**

⇒ Have a solid, stiff backing, which is 22" high by 28" wide. This can be HEAVY cardboard or foam core board. The board MUST be able to stand by itself. (Foam core board is available at the Extension Office for a minimal cost.)

⇒ Be positioned HORIZONTALLY.

⇒ Have a total exhibit board no larger than 22" high by 28" wide'

⇒ Be completely covered by a clear plastic material. (Plastic sleeves are available at the Extension Office for a minimal change.)

22" high x 28" wide poster board and sleeve—$5.00 per set at Extension Office

MINI WOODWORKING

If you like working with your hands, making wood projects and using tools, then woodworking is the perfect project for you! This manual will help you prepare your work space, give you great safety rules, help you identify tools, and give you some interesting projects to make.

Woodworking is a valuable skill. You can make a career of it, make furniture for your house or use your woodworking knowledge for a hobby or household repairs. You can make gifts, bookends and birdhouses or bird feeders. Just look around your house and see how many things are made out of wood.

Working with wood

Everyone learns one step at a time. Woodworking is a skill. You'll make mistakes, so do experienced wood workers. But don't be discouraged. Just keep trying! Before you know it, you'll have made a woodworking project you'll be proud of. Woodworking can be enjoyable and productive. There are all kinds of things you can create which can be useful and decorative.

Almost any kind of wood you find around can be used for a project. Many people use driftwood found by the water's edge or scraps left over from a building project to make useful things for themselves. Maybe you're not quite sure what to create. There are lots of books, magazines and websites to help you find just the right project. Lumber yards and home improvement centers are helpful with helping you pick out the right type of wood. Many have classes to help you improve your woodworking skills.

Remember to ask questions and to ask for help when you need it. Have a adult help with any power tools you'll need for your projects. Do not use any power tools unless an adult is helping you.

SAFETY RULES

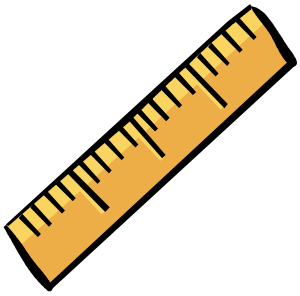
It is extremely important to learn safety rules when using wood working tools. Many of the tools you will use are sharp, heavy and some are loud. You'll need to know some safety rules before you get started.

1. Keep all your work surfaces clean and free of clutter.
2. Work in a well lit and well ventilated area.
3. Store your tools properly every time you finish using them.
4. Wear safety glasses, earplugs and dust mask to protect your eyes, ears and lungs.
5. Keep the floor area clean of sawdust and any nails / screws that fell.
6. Wear short sleeves or roll up long sleeves.
7. Keep a first aid kit handy.
8. Use the right tool for the right job.
9. Make sure the cords on electrical equipment are in good repair.
10. Ask an adult when you need help or want to use electrical equipment.

WHERE TO WORK

What kind of space is best for your woodworking projects? You'll need a sturdy table or work bench. Choose a place with good lighting and ventilation. It should be easy to clean and okay to get messy with sawdust. A good piece of furniture in your house is probably NOT the best place to do woodwork. Be sure to ask an adult for permission to use the place you've chosen as your work space.

MEASURING UP



RULER

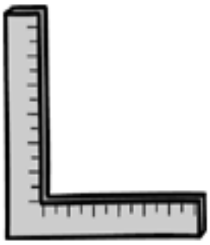
Careful measurements are important to a woodworking project. A ruler, a tape measure and a square are measuring tools. They help you measure the correct, length, width and thickness of a piece of lumber.

Before you begin learning how to measure, you need to know the symbols that represent inch and feet:

Inch = " and feet = '

TAPE MEASURE

When you measure large objects, a yardstick is usually more accurate than a ruler. A tape measure is usually more accurate tan a yardstick. A square is used to both measure and make an accurate right angle. The lines on all the measuring tools represent units of measurement. The foot and inch marks are usually numbered. The lines between the inch lines are parts of an inch. The more lines between the inch marks the more precise your measuring tool is. Use a measuring tool to see how long the lines are below. Have your helper check your answers.



L-SQUARE

———————————— answer:_____

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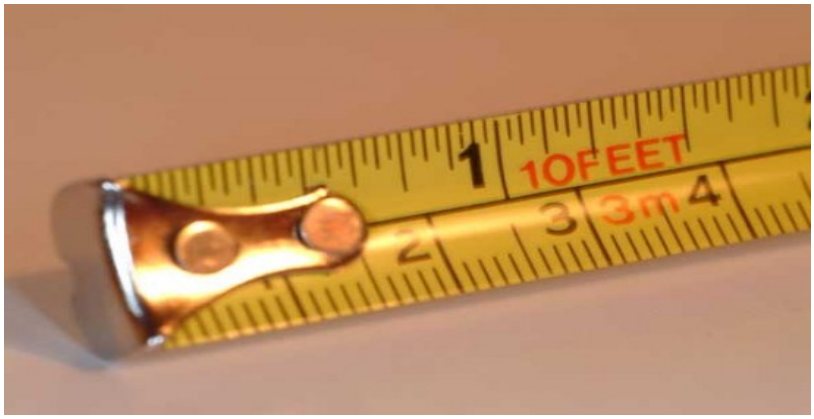


TOOLS OF THE TRADE

Now it's time to think about tools. Since you are just starting out, get tools you'll need for simple projects-a tape measure, a hammer, a straight edge screwdriver, a Philip's head screwdriver, a small square and a sharp pencil.

You'll probably need to borrow some tools for a while. Ask politely for permission to borrow the tool you need. You may also ask for help using the tool. Take very good care of whatever you borrow. Remember to clean and return tools you borrow as soon as you are finished using them.

Keep a "wish list" of tools you would use for your projects and want to add to your tool box. After getting some tools of your own, you may want to build the tool box pictured at the end of this manual.

KNOW YOUR TOOLS: CIRCLE THE ITEMS YOU WOULD PUT INTO YOUR TOOL BOX

KEEPING IT TOGETHER

There are several ways to keep your wood project pieces together. The simplest is glue. Glue is often used to join pieces of wood. When used in combination with nails, screws or bolts, glue makes the joint stronger.

There are many types of glue. Which glue you use depends on the end use of your project. Carpenter's wood glue is one of the most common glues. Wood glue is usually not waterproof and should be used on indoor projects. Make sure to read, understand and follow directions on the glue package. Get your helper or parent to read the directions for, or with you. Use glue sparingly and wipe off any glue that oozes from the joint with a damp cloth. Dried glue on the outside of your joint could ruin the appearance of your project.

Nails are often used to connect two or more pieces of wood together. There are different kinds of nails and each has its purpose. Flat head nails provide more strength to hold two boards together. Finishing nails may be driven even with the board or even slightly below the board's surface for a smooth finish.

Screws are a type of fastener that has a ridge or external thread wrapped around a cylinder. Screws have a head on top usually with a straight cut or a cross cut in the top. The part below the head is called the shank. Screws are tightened by using a screwdriver and turning clockwise.

THE HAMMER

You've probably seen a hammer before and may have even used one. Just as there are many types of nails, there are many types of hammers. Visit a hardware store and look at all the hammers. There are finishing hammers, framing hammers, small hammers, large hammers, heavy hammers and hammers with different heads on them. They all have one thing in common; they are all used to drive nails into building materials.

HITTING THE NAIL ON THE HEAD
(AND NOT YOUR FINGER)

Use the following tips to hammer a nail:

1. Always wear safety glasses and ear protection when hammering.
2. To start the nail, use pliers or stiff paper to hold the nail and prevent smashing your finger.
1. If driving into hard wood, have your helper or parent drill a small hole to help you get started.
2. Hold the hammer near the end of the handle, bend your wrist and hold you arm straight.
3. Tap the nail square on the head so it will stand on its own.
4. Continue hitting the nail squarely until the head is flat with the board. Try not to dent your board on the last blow of the hammer.
5. If you have to pull out a nail using the claw end of the hammer, place a block of wood under the head of the hammer. This will help avoid damage to the wood.

GETTING PRACTICE

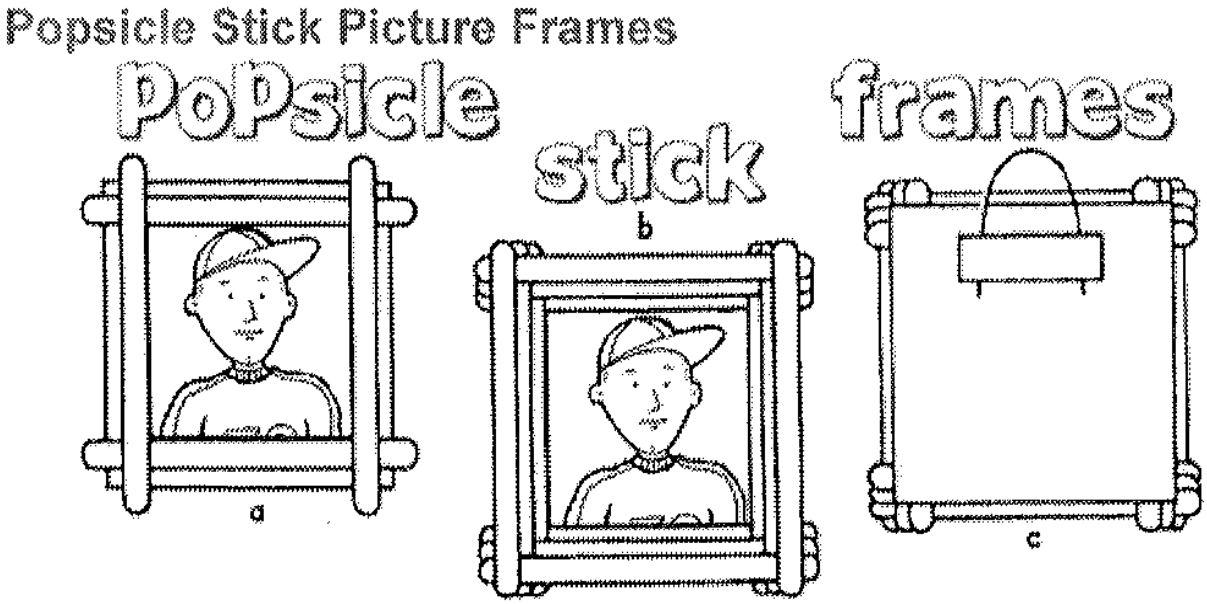
Use scrap wood blocks and 6 new nails of different sizes. Using a hammer, see how many hits it takes you to drive a nail. Keep track of the nail length, the number of hits and if you bent the nail in the spaces below.

NAIL NUMBER	1	2	3	4	5	6
NAIL LENGTH						
STROKES						
BENT NAIL						

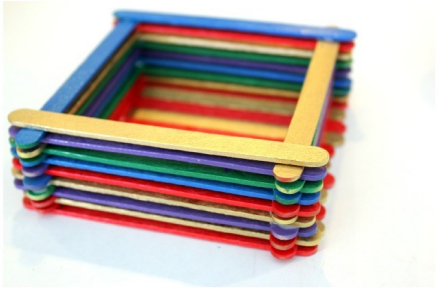
WOOD PROJECT #1

LEARNING TO GLUE WITH POPSICLE STICKS

These woodworking projects will give you practice in neatly gluing wood pieces together. Learning the amount of glue to use and the best way to clean glue mistakes and messes will help you in the future to make clean glue joints. This frame is super cute and really easy to make. Ask for a picture you will be

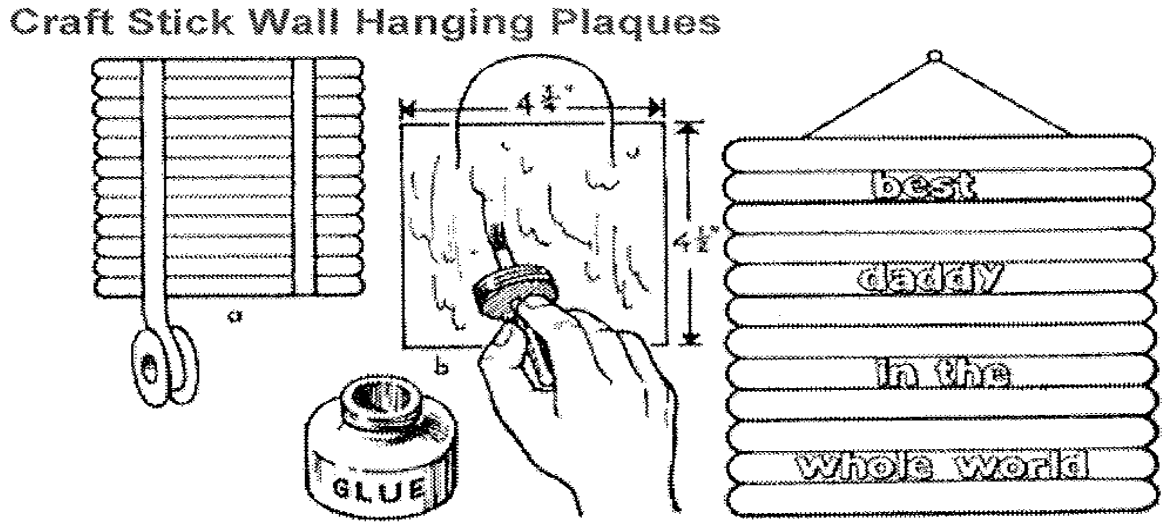


allowed to cut. Measure your picture to make a 4" square. Using a glue stick or rubber cement, glue the picture onto a 4" square piece of cardboard. Let the glue dry. Using wood glue, glue one popsicle stick on the right side of the picture and one on the left. Then glue a stick to the top and the bottom. Now glue a stick to the left and right again. Then another to the top and bottom. Do this as many time as you want. When the frame is completely dry. Tape a piece of yarn on the back to hang the picture.



Make a flat square from popsicle sticks. Using wood glue, glue popsicle sticks across the top of the square with the sticks going in the opposite direction. Glue and stack more sticks like in the picture frame directions. Continue stacking to create a box. After is dries, this can be used as a small box to hold crayons, pencils or your treasures. You can paint the sticks either before or after you glue them together.

ANOTHER POPSICLE STICK PROJECT



Lay 12 popsicle or craft sticks side by side. Attach them to each other with Scotch tape. Cut a piece of cardboard the same size as the row of sticks. Cover one side of the cardboard with glue. Cut a piece of yarn 10"-12" long and place the ends of the yarn onto the cardboard while the glue is wet. See illustration b above. Place the popsicle stick, tape side down, on top of the glued cardboard. Place something heavy on top of the popsicle sticks. Wait until the glue is completely dry. Then you can paint and decorate your plague any way you like.

The best part of popsicle stick art is eating the popsicles!

(Though you can buy packs of sticks at craft stores)

Look for more popsicle stick projects at the library or on the internet.

BUILD YOUR OWN BOOKENDS

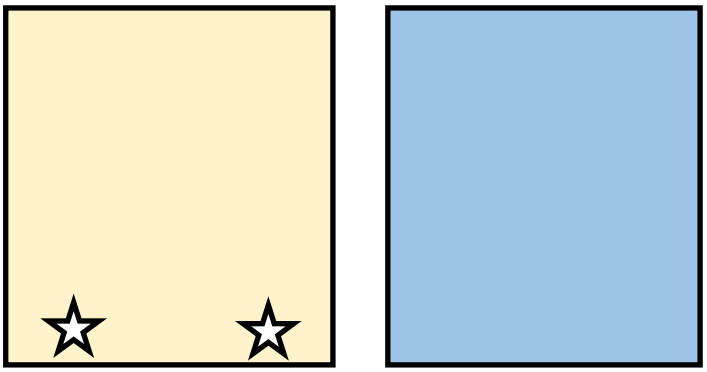
Do you have a collection of books that keep falling over? Then you need some bookends. But bookends can be expensive and some of them are boring.

Why not make some for yourself and add a personal touch to your bookend. Whether you add your initials, a favorite toy, or something you found outside, the bookends you make will add fun, color and personality to your bookshelf.

Materials for one bookend

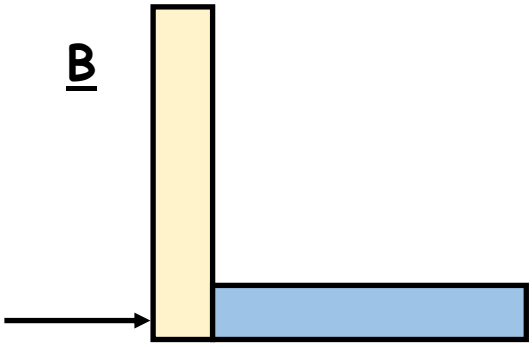
2 pieces of 1x6 boards cut 6" long for side and base
Wood glue
Wood screws-size #8, one nail
A drill with a counter sink bit
Self stick rubber pads
A ruler and pencil
Acrylic paint and brushes

A



SIDE BASE

B

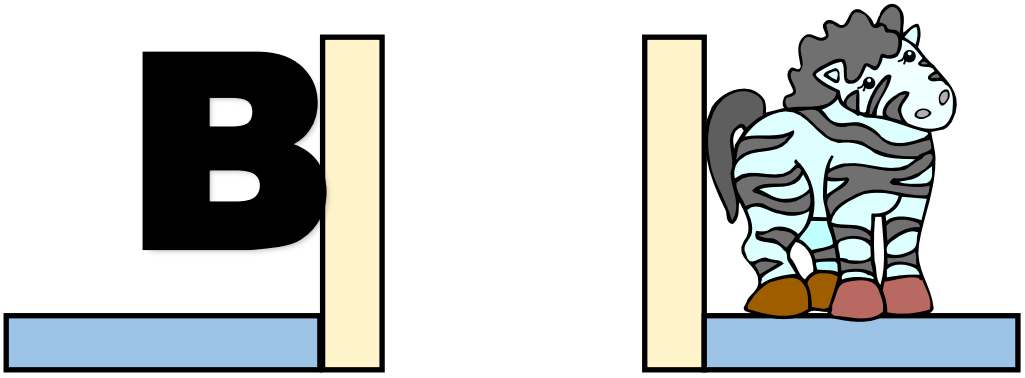


Measure 1 1/2" in from the right and left side of the SIDE piece and measure 3/8" up from the bottom on the same piece. Where your lines meet should be about where the stars are in drawing **A**. Have your adult helper drill the holes. Before you glue or fasten the pieces together, set them up like see picture **B**, making sure your edges are straight. Push the nail through the drilled holes in the side to mark the edge of the base. Have your helper drill a hole only 1/4" deep into the edge of the base. Turn the page to see how to finish your project.

FINISHING YOUR BOOKEND

Now your bookend is ready to assemble. Spread wood glue on the edge of the base with the drill holes. Put the side and base back together like in picture **B** from the last page. Have someone hold the pieces together, insert your screws through the holes that were drilled in the side. Turn your screwdriver clockwise and screw the side and base together. Wipe off any glue that squeezed out. Using both glue and screws will make your bookend strong.

Repeat the process to make another bookend so you'll have a set. Now it's time to paint and decorate your book ends. Use a favorite color or a color to match the room where your bookends will stay. After the paint has dried, attached the self stick rubber pads to the corners under the base.



How to make it your own

Now you have to make a decision. Do you leave the bookends alone after you build and paint them? Or do you decorate them even more? Above are just a couple of ways you can add more personality to your bookends. Buy a large wooden letter from the craft store, paint it and after the paint dries glue it to the base. It can also be screwed in to make the joint stronger. Find a toy you can stand on the base. If you don't glue it to the base, you can change the toy whenever you wish. Find a cool rock or fossil, an interesting piece of driftwood or a seashell to glue to your base. Decorate it any way you want. **Be Creative! Have FUN!**

HANDLING A HANDSAW

There will be times you will need to use a handsaw. This is not easy. It takes the right equipment and a lot of practice to make a straight cut with a hand saw.

Most handsaws are either a crosscut saw or a rip saw.

- The crosscut saw is made to cut across the fibers (grain) found in wood. It has more teeth per inch than a rip saw and the teeth are like knife points
- A rip saw is used to cut with the fibers (grain). The teeth on a rip saw are like chisels placed in a row.

When you cut in this direction, you are cutting across the fiber or grain and should use a crosscut handsaw.

When you cut in this direction, you are cutting with the fiber or grain and should use a rip saw.

Which way do it go?

Draw an arrow to show which direction the wood fibers are going in each picture.

A.

B.

C.

WHERE SHOULD I PUT MY TOOLS?

The next project is a tool box so you can keep your tools organized and safe. By using your toolbox, you'll know just where to find your tools when you are ready for another project.

Materials for building your toolbox

Start with a 1x8 piece of lumber 4' long and cut the following pieces:

A-2 pieces of 1x8 cut 8 1/2" long for the two end pieces

B-1 piece of 1x8 cut 14" long for the bottom or flooring

C-1 piece of 1x8 cut 14" long, then cut down the center lengthwise for the two long sides of the toolbox

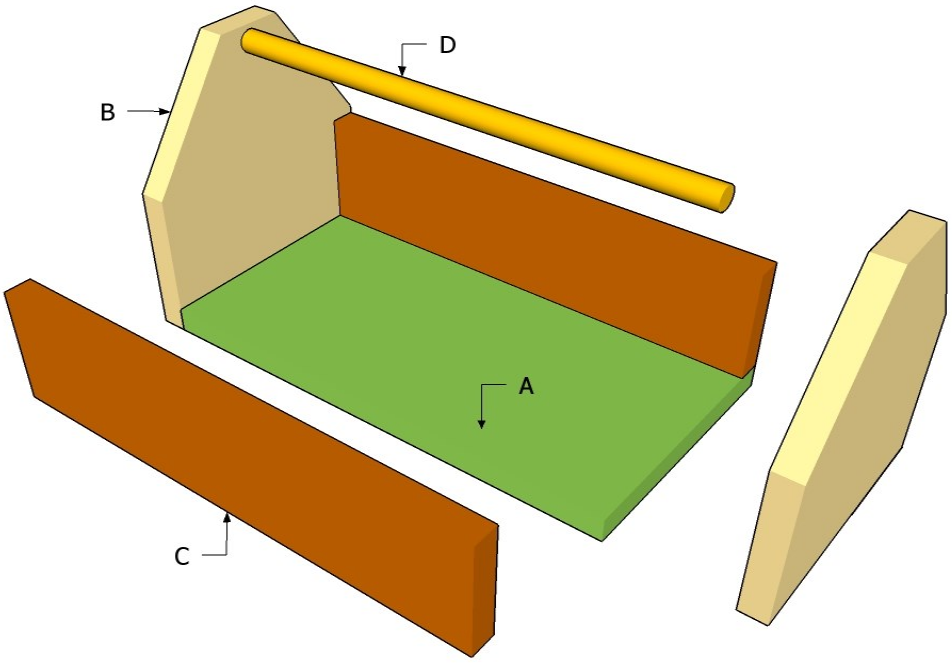
D-1 wooden rod 3/4" to 1 1/4" wide cut 14"long

L-square or tape measure, pencil and sand paper

Wood glue, 1 1/4 "wood screws or finishing nails

Hand saw, circular saw or miter saw

Drill and Wood Clamps



MAKING YOUR TOOLBOX

This may look difficult, but with a little help from an adult, your tool box will turn out great! Take your time, measure carefully before cutting the pieces and follow all the safety rules.

The first step it to mark your cutting lines. Before marking the diagonal lines, cut the boards the right length and then cut the one 14" long board in half lengthwise to create the sides of the tool box. You need to assemble the floor and sides of your toolbox without glue and nails to figure out where to make the diagonal cuts.

Rest the long narrow sides on the floor of the box. Stand the tall ends up so it sets on your work table and butts up against the floor of the toolbox. See the picture on the toolbox materials page. Mark on the end pieces where the top of the short side stops. This will be the bottom of your diagonal cut. Find the center of the top edge of the end piece. Measure one inch on both sides of the center and make a mark. This will be the top of your diagonal cut. Double check to make sure the marks on the top of the end piece are two inches apart.

Always measure twice before cutting. Use a sharp pencil to make a good line. Have your helper check your measurements.

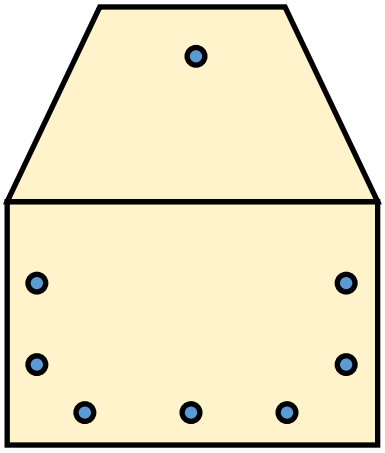
This is what the pieces of your toolbox will look like after all the cuts are made.

NOTE: The 14" wooden rod is not in the picture.

GETTING IT ALL TOGETHER

After making all the cuts, drilling the pilot holes are next. Along the bottom of the end pieces, make small marks at 1", 3" and 5". Measuring up 3/8" from the bottom edge. Make small marks at 1 1/2" an 3" on the right and left side of the end pieces, also 3/8" from the side edge. Drill or have your helper drill pilot holes on the marks. These holes are for the nails or screws to hold the floor and short side to the edges.

Drill one more pilot hole for the handle. The hole should be 3/4" down from the top edge of the end piece. When done drilling, your end pieces will look like this.



Apply wood glue to the short edge of the toolbox floor piece. Attach the end pieces and clamp the pieces together and let dry for about 1/2 hour. Then insert either wood screws or finish nails to secure the joint.

FINISHING THE JOB

You're almost done! Just a few more things to do and your tool box will be ready!

Apply wood glue to the short edges and ONLY one long edge of the two sides. Carefully put them in place and clamp. Let dry for half an hour, then nail or screw the sides in place.

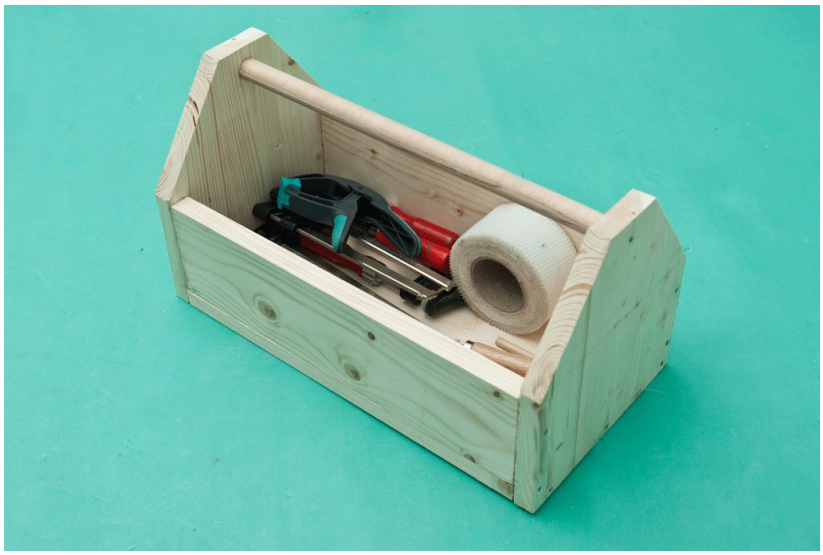
Your toolbox should now look like this.

Now its time for the handle. Apply a bit of glue to the ends. Line it up to the pilot holes in the ends. Either clamp the ends tight or have your helper hold it together and screw the handle in place.

You'll want to use a fine grit sandpaper to smooth the outer edges of your tool box, especially the sharp corners. For a finished look, clean off all the sawdust and apply a few coats of stain or paint to help protect your box. You can place or glue a piece of felt to the inside floor to help keep it from getting dented.

I'm sure you did a GREAT job!

Check out the next page for what to exhibit at the Fair!



WHAT TO EXHIBIT

Choose one of the items below to exhibit at the Fair. Choose a different project for each year.

1. Make a popsicle stick picture frame, box or hanging plaque
2. Make either one or a set of bookends. Decorate any way you want.
3. Build a toolbox.
4. Make a poster using pictures of at least 5 tools. You can either draw the tools or use pictures from a magazine. Write the name by each tool and tell what each tool helps you to do.
5. Make a poster showing the safety rules of working with wood.

Make sure all exhibit entries have an Exhibit Label.

Poster Guidelines:

- The poster board must measure 22" x 28", displayed horizontally
- The poster should be made of heavy cardboard or foam core board
- A title should be at the top of the poster
- The poster must be completely covered with clear plastic/plastic sleeve
- Complete an Exhibit Label found in your mini handbook (or from the Extension Office) and place in the lower right corner of your poster

HAVE FUN AT THE FAIR!

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Exhibit Name Tags

Below are name tags for you to cut our and attach to the project that you will be exhibiting at the fair. Attached the tag to the bottom right-hand corner of your poster or project. If you have another type project such as a model farm, attach the take to the tack with the tag hanging down where it can be seen at the bottom right corner of the project.

DECATUR

_____
Name

_____
Club

_____
Project

_____
Grade

MINI 4-H/CLOVERBUDS

DECATUR

_____
Name

_____
Club

_____
Project

_____
Grade

MINI 4-H/CLOVERBUDS

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MINI 4-H

Cloverbuds

I pledge

My **HEAD** to clearer thinking,

My **HEART** to greater loyalty,

My **HANDS** to larger service, and

My **HEALTH** to better living for

my CLUB, my COMMUNITY,

my COUNTRY and my WORLD.

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