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4-H Handicraft Guide: Wood Craft

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4-H HANDICRAFT GUIDE

Wood Craft

Extension Circular 583

COOPERATIVE EXTENSION SERVICE

South Dakota State College

Brookings, South Dakota



Handicraft work with wood offers 4-H members an excellent opportunity to learn the fundamentals of wood working, including construction, identification, and finishing. Tool identification and care will be studied. This project is not designed to develop skilled carpenters but will equip you with the ability to plan and make many of your own personal wood articles.

WHERE TO BEGIN

Identification and appreciation of good tools are first and most important. Survey your home shop or tool cabinet and discover just what basic tools you already have. If you do not know the names, uses, and care of these tools the following will be helpful.

CARE OF TOOLS

We all know that it takes good tools to do the best work. It is better to have a few good tools than a lot of cheap ones. To do good work it is necessary to keep them in good condition. All tools should be kept in a clean dry place. A work bench back board with a stencil for each tool, a good drawer, or a tool cabinet are all recommended places to keep tools. If each tool is kept in its proper place it will always be ready to use and is more apt to be kept sharp and in good condition. A dull tool is very dangerous to use, and wastes time and energy. Use oil on tools to keep them from rusting, but use it sparingly. If tools do become rusty, the rust can be removed by rubbing with fine sandpaper, steel wool, or powdered pumice stone. Then wipe with an oily cloth.

Sharp edged tools (such as plane bits and chisels) may be completely ruined by coming in contact with metal and dirty surfaces. In using old lumber, remove all nails, grit, and dirt. Never use the plane after sandpapering; the fine particles will dull the plane bit. Never use the wood chisel for a screw driver nor use a screw driver to pry or other heavy work for which it was not designed.

Good tools, if properly cared for, will last a life time. Many demonstrations or illustrated talks could be given on care, selection, and use of tools.

IMPORTANT THINGS TO KNOW ABOUT WOOD

It is very important to know about the kinds of wood before selecting a project. Beginning members will find the softer woods like white pine, aspen, basswood, yellow poplar, and cedar much easier to work than the hard woods.

By John Younger, State Club Leader, and
Ella Ollenburg, State Club Agent

Cabinet woods like cherry, walnut, oak, maple, and birch may be used after you have acquired skill and good results with the softer woods. Plywoods can be used to good advantage after you learn how they can be sawed and constructed. Your leader will advise what woods are best for the project.

OTHER IMPORTANT INFORMATION

Other important materials to consider for woodcraft projects include wood fasteners (nails, brads, screws, corrugated fasteners), and hardware (hinges, handles, glue, brushes, and finishing supplies). All of these articles should be taken into consideration when planning and selecting the wood project to be made.

Nails. Choosing the correct nail is very important. Common wire nails are thick and have large, flat heads. They are used in rough work where strength is desired. Finishing nails are used for fine work such as woodwork and cabinet work. Casing nails are somewhat thicker and stronger than finishing nails; they have smaller heads.

Brads vary in size from $\frac{3}{8}$ to $1\frac{1}{2}$ inches. They are made from wire varying in gage from No. 20 to No. 11. For fine work brads up to 1 inch size are commonly used.

Screws are next to nails as the most common wood fasteners. More time and labor is required but they hold the project together better. Flat headed and round headed types of wood screws are most commonly used. In using screws to hold two pieces of wood together, (1) drill the first hole large enough to allow the shank of the screw to slide in easily; (2) drill the second hole slightly smaller than the diameter of center portion of the screw. If softwood is used omit second hole. Flat head screws require a counter sink in order to have the head of the screw flush with the top of the wood. Soap or oil applied on the threads of the screw makes it easier to sink into the wood.

The corrugated fastener, also called the wiggle nail, is used for tightening loose joints or cracks or commonly used in joining boards together. They come in various sizes.

Glue, if properly used, is stronger than wood. Ordinary liquid glue in tubes is convenient to purchase but not as strong as hot glue. It may be applied with a brush or squeezed from a tube. Have everything ready including the clamps before glue is applied.

Dowels are round wooden pegs used in wood instead of nails for some projects. They are made of strong maple or birch wood with diameters ranging from $\frac{3}{16}$ to 1 inch and in 3 foot lengths or assorted sizes.

Shellac. White shellac should be used. Its use is a little more restricted on furniture than penetrating seal. It dries quickly and under almost any condition. Shellac on drawers controls swelling and shrinking.

Use quick even strokes. Paint first across the grain and then with it. Brush paint out well, avoiding runs or sags.

Start with an enamel undercoat in about the same shade as final coat. Cover knot holes with stock shellac before starting.

Dilute $\frac{1}{2}$ pint 4 pound cut white shellac with $\frac{1}{2}$ pint denatured alcohol.

Do not brush on with brushing stroke. Draw the brush once across the surface with the grain of the wood, holding it as horizontal as possible. Do not go back to smooth the coat or remove bubbles. Avoid overlapping. Cover surface quickly and evenly. Shellac dries fast.

Dry and sand down lightly. Clean, and repeat process several times.

Finish with three coats of wax.

Paint gives an opaque finish. It must be stirred completely to mix the coloring matter. Use a brush $1\frac{1}{2}$ to 2 inches wide. Paint is good to use if the furniture wood is of poor quality or color, or uneven in grain. It is easy to apply and gives a hard durable finish.

Dry, sand, and wipe clean.

Second coat use $\frac{1}{2}$ undercoat and $\frac{1}{2}$ final coat. Dry, sand, and wipe clean.

Apply final coat. Rub down with several coats of a rubbing compound after paint is dry.

Varnish. Spar or bar varnish is a very durable finish which resists scratching, water, heat, mild acid, and alcohols. It is good for outdoor furniture, table and counter tops. Varnish is slow drying and difficult to apply. Varnish darkens natural shade of the wood with age, is difficult to repair.

Rubbing or polishing varnish dries more quickly, and is easier to handle than spar or bar varnish.

Several thin coats should be applied. Dry thoroughly, sand, and clean between each application. The air and room must be as dust free as possible. To wipe clean after sanding use a "tack" cloth. This is a cloth dampened with a mixture of five parts turpentine and one part varnish.

Wax or polish with a rubbing compound after three or four weeks.

Blonde. Apply a stain of any light color desired (may be in place of the first seal coat or after the first seal coat—depending on the wood).

Wipe off just before it gets "tacky." First wipe across grain, then with grain.

Dry, sand, wipe clean and then apply the finish following the directions given for finish used.

Wax as a finish. Wax is especially effective on hardwoods. To apply, place a small amount of paste wax in the folds of a cloth. Rub evenly over the furniture. Allow several minutes to dry. Polish briskly with a soft clean woolen cloth. The more applications of wax and polish the better the gloss and protection. Wax is a durable finish, does not mar or scratch easily, but may waterspot (these are easily removed).

Oil polishing gives a beautiful rich satin finish to hard woods. It should be applied after a seal coat.

Brush on a mixture of two parts boiled linseed oil and one part turpentine. Let stand 10 to 20 minutes, then polish with soft lintless cloth about 20 minutes. Repeat at weekly intervals for at least 10 weeks.

CAUSES OF POOR JOBS

Roughness

Not sanded enough before finishing
Poor application of finish
Not well rubbed down
Failure to remove dust completely

Tackiness

Some remover left on
Drying not completed before next coat is applied
Damp weather
Wrong undercoat for finish
Too heavy a coat.

BRUSHES AND THEIR CARE

Use a good brush for best results. The best brushes are made of hog bristles or animal hair. Bristles should be springy and elastic with split ends.

A good brush will:

- * hold more paint
- * carry paint without dripping
- * spread paint without spattering
- * put on a smooth coat
- * cut a clean edge.

New Brushes

- *Suspend in linseed oil for several hours before using. Remove oil from brush before using.
- *A varnish brush should be rinsed in thinner to remove dust.
- *If the job carries over to the next day, the brush may be wrapped tightly in aluminum foil between uses.

Care of Brushes

Take good care of your brushes. Brushes become useless through neglect or carelessness in cleaning. An accumulation of paint spreads the bristles and makes it impossible to apply an even coat of paint. Clean brushes in same liquid that is used to thin the finishing material in which the brush was used.

Clean:

- A shellac brush in alcohol.
- A varnish brush in turpentine.
- A lacquer brush in lacquer thinner.
- A painter brush in turpentine.
- A penetrating seal brush in alcohol or turpentine.

To clean the brush:

- *Work solvent well into the heel of the brush. Repeat as often as necessary in fresh solvent.
- *Wash with soap and warm water.
- *Dry brush thoroughly and wrap in wax or aluminum foil.
- *Hang or lay it on a flat surface. Never stand a brush on the end of its bristles. Never leave in water.