

*Reynolds Manufacturing Corporation
P.O. Box 6058
Abilene, Texas 79608
800-588-4031*

BUILDING FOR THE FUTURE

Introducing the Woodworking Center to the Classroom

Vicki Reynolds



“Building for the future”

WHY HAVE A WOODWORKING CENTER ?

Through woodworking, children can broaden and refine their cognitive, physical, emotional, and social skills.

AREA OF DEVELOPMENT

CHILDREN LEARN AS THEY:

COGNITIVE

- ~develop relationship thinking skills.
- ~grow in their understanding of number concepts, shapes, comparison of size, and experience with three dimensions.
- ~get to know and use wood and tools with purpose and satisfaction.
- ~experience joy in discovery and active learning.
- ~increase communication skills through talking about woodworking and tools.
- ~solve problems through divergent thinking and plan creatively.

PHYSICAL

- ~develop and coordinate large and small muscle movements.
- ~begin to master physical woodworking skills such as measuring, hammering, sawing, planing, filing, and finishing.
- ~expand sensory awareness -- smells, textures, and sounds.

EMOTIONAL

- ~build strong, positive feelings about themselves.
- ~meet new situations.
- ~sustain interest and overcome frustrations successfully.
- ~become open and sensitive to their own feelings and the feelings of others.

SOCIAL

- ~cooperate with others.
- ~learn to grasp and follow rules for the safety of others as well as for themselves.
- ~accept differences among children.
- ~achieve satisfying friendships through "work" relationships.
- ~sense responsibility to the group and joy in group accomplishment.

"Area Of Development" outline was excerpted from Woodworking for Young Children published by the National Association for the Education of Young Children.

STARTING A WOODWORKING CENTER:

1. Educate yourself about woodworking.
 - (a) Learn about woods.
 - (b) Learn about tools.
2. Practice or "tryout" all tools and activities.
3. Begin with basic art activities or sorting activities.

MATERIALS NEEDED:

1. Tools and Accessories:
 - (a) Hammer - 7 to 13 ounce claw hammer.
 - (b) Nail puller – Wonder Bar II by Stanley
 - (c) Nails - roofing nails for beginners, then add wire nails and box nails. Add various kinds of nails according to the project.
 - (d) Saw - 16 to 20 inch crosscut saw (10 point - 10 teeth per inch). A keyhole or compass saw will also work.
 - (e) Shaver or block plane. Surform shaver by Stanley similar to a file, works like a plane
 - (f) Sandpaper - use coarse, medium, and fine grits.
 - (g) Glue
 - (h) Safety Goggles.
 - (i) Workbench
 - (j) Sawing Bench
 - (k) Nailing base (and carpet scrap) – pounding board
 - (l) Vise and/or C-clamp
 - (m) Miscellaneous - pliers, square, level, wrench. Boring tools such as the bit and brace, the hand drill, and the screwdriver are difficult to use and are not recommended until children have had a great deal of experience doing woodworking. The recommended age is eight years.

2. Wood (in order of suitability for young children):

- (a) White pine
- (b) Poplar
- (c) Cedar
- (d) Spruce (readily available - used for framing houses)
- (e) Plywood (good for gluing and drawing activities only)

3. Storage:

- (a) Store wood scraps in baskets, boxes, or wooden bins.
- (b) Use clear plastic containers for nails.

The woodworking center needs quite a bit of work space. The center needs to be an area away from other centers because of the noise level.

BEFORE BEGINNING WOODWORKING ACTIVITIES:

1. Tool Tips: Teaching children the correct way to use tools is also teaching them the safest way! Here are some hints.

- (a) Grasp hammers near the end of the handles, not close to the head.
- (b) Tap nails to get them started, and remove fingers as soon as nails stand firmly on their own. You might start nails for younger children. Remember, long thin nails bend if they are hit too hard before they're halfway into the wood.
- (c) Select the right size nail for the job. Help children safely discover that when nails are too long, they come out the other side. If they are too short, they won't hold the pieces together. If they are too thick for the grain, they will cause the wood to split.
- (d) Consider using a C-clamp or vise to hold the work in place.
- (e) Practice sawing "downhill" at a 45-degree angle, using just enough force to keep the teeth in contact with the wood.
- (f) Use sandpaper to smooth most surfaces. Make it easier to handle by tacking it around a block. Use medium grit as coarse grit leaves grooves in soft wood and fine sandpaper takes too long to yield results.

"Tool Tips" outline was excerpted from an article titled Learning Through Woodworking published in the April, 1991 issue of Scholastic's Pre-K Today magazine, pages 45-49.

2. Safety Tips: Children do not automatically understand the possible accidents that can be caused by using tools incorrectly. Woodworking can be a safe activity if the proper tools are used in a well-planned, supervised activity.

- (a) Only one or two children should work at the workbench at a time.
- (b) Keep tools in good repair and working order.
- (c) Educate children about tools and their proper use (see tool tips).
- (d) Children should use tools only with adult supervision.
- (e) Keep the work area free of clutter.
- (f) Use a vise or C-clamp to hold material in place.
- (g) Keep hands safely away from where the saw might slip.
- (h) Do not leave nails protruding from the finished product.
- (i) Keep a well stocked first-aid kit with tweezers, disinfectant, band-aids, etc.

3. Stages of Woodworking:

(a) First Stage (exploring):

- (1) Stack and unstack wood.
- (2) Introduce the hammer. Pound nails into a tree stump or large soft piece of wood. Pull nails out. Start again. For younger children, use golf tees instead of nails, and hammer the tees into the styrofoam.
- (3) Introduce the saw. For beginners, saw styrofoam or soft fiberboard.
- (4) Introduce other tools - one at a time.

(b) Second Stage:

- (1) Begin experimenting by combining wood scraps by gluing and nailing.
- (2) Introduce sandpaper. Experiment with different grits.

(c) Third Stage (product stage):

- (1) Combine pieces to "build" something.
- (2) Complete product by sealing it with vegetable oil.

WOODWORKING ACTIVITIES:

1. Hammering

- a. Practice hammering using golf tees on an empty cardboard material bolt or piece of Styrofoam. For very young children use landscape stakes.
- b. Hammer nails into an old tree stump and then practice pulling the nails.
- c. Practice hammering nails into a pumpkin, then remove the nails for an interesting jack-o' lantern

2. Wood Sculptures:

Glue wood scraps of various sizes together and embellish with old buttons, bottle caps, and magic markers. Let children share about their wood sculpture.

Variation: Add different sizes of wood with hammer and nails to these items to create Santa's workshop at Christmas time.

3. Popsicle Stick Airplane:

Use one popsicle stick for the body of the plane and two popsicle sticks for the front wings (one on top and one under). Use half of a stick for the back wing. Glue the wings on the body and wrap with a rubber band until dry. May color with markers. Popsicle sticks and craft sticks may be use on wood collages.

4. Tin Punch Designs:

Tape a tin-punch design into a tin pie plate. Let the children hammer a nail through the hole (or dot) in the design. Remove the nail and repeat until the design is complete. This activity should be completed on a workbench or nail board.

Variation: A more difficult variation of the pie plate punch is a juice lid punch. Punch out a design on a metal juice lid. Add a hole at the top of the lid to string ribbon through so the lid may become an ornament.

In his book Easy Woodstuff for Kids, David Thompson has the following suggestions:

1. For using sticks, he suggests that a child can "write" their name on a piece of wood by gluing stick down.
2. Making a scroll by cutting two sticks for the top and bottom and using heavy paper in between.
3. "Frame" a picture with sticks by mounting the picture on cardboard and using sticks as a border or frame.
4. Use sticks to outline symbols.
5. Another suggestion is to make musical sand blocks using two 3 inch by four inch scrap pieces of wood, two empty wooden thread spools, and two pieces of sandpaper.