

Woodworking: A constructive learning center

Woodworking: The mere word strikes fear in the hearts of many of the most competent early education teachers. Painfully, it conjures up images of a crying child with a bleeding finger, or one child hitting another on the head with a hammer. Actually, woodworking activities can offer rich, diverse, and exciting opportunities for skill development across all domains.

Make the leap and teach children to use and respect tools and the woodworking area appropriately, just as you do in all other areas of the classroom. For children ages 4 years and older, the learning associated with woodworking activities far outweighs the potential for problems—if you introduce and supervise the action.

Woodworking projects build physical skills like dexterity, balance, agility, and muscle strength. Projects typically demand cognitive and social skills like planning and perseverance, cooperation among workers, and a willingness to abide by specific safety

rules. Math and creative skills like measurement, art and design, and invention all come into play.

Additional benefits include developing

- eye-hand coordination
- fine motor skills
- problem-solving abilities
- creativity
- imagination
- independence and self esteem
- matching and classification abilities
- sorting and comparing skills
- recognition of textures and properties
- conceptualization abilities
- cooperation and social harmony
- respect for tools and materials
- increased awareness and understanding of the natural world
- descriptive language
- self-regulation

Introduce woodworking

As a prelude to carpentry activities, introduce children to the characteristics of wood. Ask questions to learn what children already know. For example, a simple question like “Where does lumber come from?” can open conversations about logging, geography, transportation, forestry and forest management, fire safety, and furniture and home design.

Show children photos and maps of lumber forests. Encourage children to draw charts that follow a tree from the forest to logging, transportation, milling, lumber yards, and construction sites.

Invite children to describe, chart, and otherwise investigate the traits of different forms of lumber. Research solid wood and its sizes; laminated lumber like plywood and fiberboard; pressed wood chips like Masonite® and pegboard; and sawdust and wood shavings.



CREATIVE COMMONS: PHOTO BY JAARON

Gather pictures of common hand tools, such as hammers, screwdrivers, saws, drill and bits, planes, clamps, wrenches, and rulers. Borrow samples of actual tools for children to investigate. Talk about the job each tool performs and the hardware associated with each.

ASK QUESTIONS TO LEARN WHAT CHILDREN ALREADY KNOW.

Consider building a unit of study that helps children investigate wood. Ask for donations of several different kinds of scrap lumber. Help children recognize grain (long and cross), texture, density, weight, and color. Make sure you can share pictures of the types of trees that produced each sample. Talk with children about which trees grow in your geographic area—pines, oaks, cedars, or chestnuts, for example. Investigate the ways in which trees are harvested and replanted for lumber production.

Include construction blueprints, design drawings, and tool books in the classroom library. Hang pictures of construction projects—large buildings as well as small furniture pieces like bookshelves—so the children can investigate and discuss processes.

To help you and the children get started with actual carpentry projects, use these tips:

Introduce safety rules thoroughly and clearly.

- Limit the number of children working in the area. Most teachers find it useful to limit the number to one or two at a time.
- Insist that children wear goggles for eye protection.
- Learn and teach children the correct names of all of the tools.
- Reinforce the proper use and function of each tool. For example, a hammer is used with nails, and only with nails.
- Make sure the consequences to rule infractions are imposed swiftly and consistently.
- Inspect tools periodically. Promptly remove and repair (or replace) any tools with defects, such as loose heads on hammers.

Start slowly.

Setting up a woodworking center in your classroom does not mean starting out with a full set of carpentry tools and a lumber rack. Introduce real tools one at a time and make sure the tools are sized to the hands of the children using them.

Start simply.

Talk with children about how wood can be manipulated to make it functional.

- Let all the children use sandpaper to smooth a block of wood.
- Practice hammering with golf tees into sheets of acoustic ceiling tiles with a rubber mallet. Progress to a length of lumber clamped to a workbench.
- Show how a drill bit and a screw have a similar spiral pattern. Drill a few sample holes in a block of wood and start screws in each hole.

Expect and model respect for the tools and the woodworking area.

- Abide by the rules, such as wearing protective goggles, when you are working with children in the center.
- Encourage children to put away tools and materials in their proper places.

The most effective woodworking centers are as available to children as paint, blocks, and puzzles. When woodworking is an occasional or special event, children don't have time to build skills or feel confident in—or finish—their endeavors.

Supervise woodworking

To make supervision easy, place the workbench in a highly visible area perpendicular to a wall (to add stability) and out of traffic paths. Hang tools on a pegboard mounted to the wall or designate a nearby shelf for storage. Trace the outline of the tools on the storage area to encourage children to safely return tools to their storage space when they are finished using them. Use plastic containers with lids to store nails, screws, nuts, bolts and washers, and other incidental hardware.

Attach a vise to the workbench and include clamps in the tool collection. Show children how to use the clamps to make a sturdier (and safer) work surface.

As children gain skill with tools, consider offering other introductory tools and hardware, such as the following:

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- nails with large heads (like roofing nails) that are easier to grasp and hammer
 - Phillips® head screws and screwdrivers that don't slide as easily as traditional slotted screws
 - a 12-inch pull saw that cuts more easily and doesn't bow like a standard rip saw
 - an eggbeater drill with ¼-inch to ½-inch bits
 - measuring tools like retractable tape measures and a small framing square

Woodworking might demand a higher level of supervision than the library or art center but few early education activities offer the children—and you—a better opportunity for skill mastery. The cherry on this sundae is the self-confidence children feel in using adult tools with care and success.

Resources for teachers

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About the author

Cathy Abraham uses her 30 years of early care and education experience in training and consultation provided to early childhood programs. To see more samples of Cathy's preK curriculum, friend her on Facebook at Learning Foundations. ■