



The Take-Apart Playhouse

Woodworking, teamwork, and community service—all in one project



Photos by Candy Meachman and Jack McKee

By Jack McKee

MY first experience building with neighborhood children was a small climbing dome I built for my son's day care center. It was an easy project, so I was amazed at the reaction. The moms and children acted as if I had built the Eiffel Tower. Spurred by their enthusiastic response, I began to think about a playhouse, something on the order of big Lincoln Logs, that children could put together and take apart themselves.

For building materials, I rejected real logs because of their weight. I considered plastic water pipe and cardboard tubes before the idea of using cedar fence boards struck me. These worked well and eventually evolved into a plywood version with five different lengths of wall pieces. Using plywood made the set practically indestructible, and the pieces of different lengths gave more building options. I've taken the playhouse to preschools, elementary schools, and friends' houses, and it never fails to draw a crowd of enthusiastic young

Jack McKee is a woodworker, teacher, and free-lance writer from Bellingham, WA. Detailed plans for the Take-Apart Playhouse are available for \$11.95, plus \$2.00 shipping and handling, from Jack McKee, 1117 Lenora Ct., Bellingham, WA 98225; (360) 671-9079.

builders. The Take-Apart Playhouse (see photo) is first and foremost great fun. Children continually come up with new things to build, and they learn to work together.

Older children's interest. One day at a children's fair, some middle school students came by and wanted to try it out. I was surprised and intrigued. Not only were they eager to play with it, but they also wanted to build a set themselves. Reflecting, I realized that with jigs, youngsters could build a set, even without much woodworking experience. Taken with the idea, I started proposing it to anyone—shop teachers, core teachers, PTA members, scout leaders—who would listen.

I knew Whatcom Middle School (WMS) in Bellingham, WA, had a program in which students worked on community projects. I spoke with Julee Pitalo, a teacher at WMS, and we discussed the possibility of students building the playhouse and giving it to a deserving organization as a project for their service learning program. She explained that service learning had become part of the middle school curriculum, and eighth graders were required to choose a project and work on it one morning a week for 10 weeks. Writing assignments in the form of journals with reflections about

the project were part of classroom assignments.

Nine WMS students chose the playhouse for their learning service project, and after deciding to go ahead, I carefully worked out construction details. Five of the nine had no woodworking experience, but because I had worked previously with inexperienced students, I know how capable they can be when given specific jobs. I divided the project into 15 steps. (See Jobs List on p. 33.) For each step that required repeated or exacting measurements, I designed a jig. Except for two vibrating sanders, we used no power tools. After working out details for each step and building jigs, I felt confident the carpentry would move smoothly. On the first day I talked about safety, introduced four of the 15 steps, and we went to work.

Service. Carolee Cummings, a Washington Serve volunteer from Western Washington University's Campus Compact, also in Bellingham, offered to help students decide how to give the playhouse away for the service part of their project. As a group, the students talked about who might best benefit from the playhouse and brainstormed questions to ask interested agencies. Based on this discussion, two students drew up a questionnaire and phone

script, called more than 50 agencies and individuals, and presented their findings to the group.

After construction was well along, we took a portion of one day to decide who was to receive the playhouse. Aside from helping with questions about non-profit organizations and whether to give it to a religious organization, Carolee and I stayed out of the way. Taking the process very seriously and after lengthy discussion, the students unanimously chose Bellingham's Womencare Shelter, a safe house for battered women and their children.

Organization. Building the playhouse with a group is a real organizational problem. There are several jobs to do—sawing, sanding, planing, painting—some challenging, some repetitive. There is a sequence for the jobs, although it allows some flexibility. Availability of tools and jigs also restricts organizational options. The challenge is to intersperse the tedious jobs, such as rounding edges and sanding, with the more interesting ones to match students' interest and abilities and to switch jobs frequently enough to sustain interest and enthusiasm.

Although I did not institute it the first day, it soon became obvious that a schedule was necessary. On the first day, the students were very concerned with breaks. They wanted to take one every time the bell rang and the rest of the school moved from class to class. A five-minute break every 40 minutes threw

Jobs List

1. Cut pieces to length (Fig. 1)
2. Cutting the corners (Fig. 2)
3. Rounding edges
4. Sanding edges
5. Cutting the notches down (Fig. 3)
6. Forming notches by removing plywood between saw cuts
7. Check fit and quality control
8. Oil finish
9. Laying out and cutting gable ends
10. Wood burning gable end
11. Gluing and stapling velcro to the top of gable end and bottom of the roof boards
12. Building boxes to hold two- and four-notch pieces
13. Cut, round, sand, and oil roof boards
14. Cut and wash inner tube ties for roof boards and the six and 10-notch pieces
15. Questionnaire and phone calls

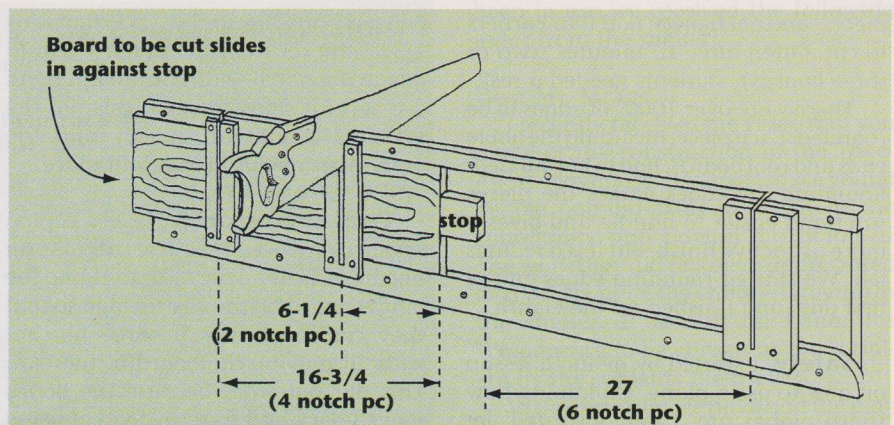
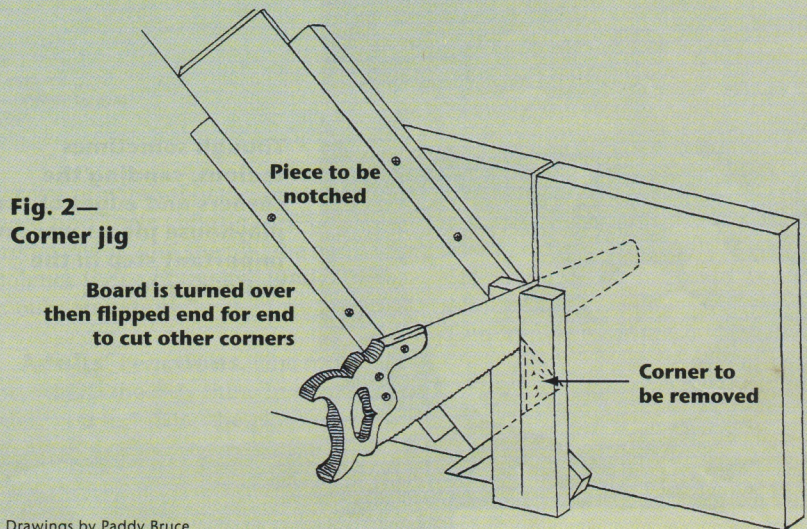


Fig. 1—Cut to length jig (not to scale)



Drawings by Paddy Bruce

everything off. On the second day, I proposed this schedule:

- 8:30-8:45—Discussion of jobs to be done, safety, and new tools
- 8:30-9:15—First job
- 9:15-9:45—Second job
- 9:45-10:00—Break with donuts
- 10:00-10:15—Questions, problems, review
- 10:15-10:45—Third job
- 10:45-10:55—Clean up

This worked well, but once we established the schedule, we didn't always stick to it. The break in the middle was crucial, as were the donuts, but we didn't always switch jobs. If students had started a job, I believed they should be able to finish it, even though it went beyond switching time. Because there was a tendency to gravitate toward the more complicated jobs, the problem was to be sure each student got a chance at the fun jobs and did a fair share of the tedious ones. If someone were doing a job no one else wanted and wanted to keep doing it, I saw no reason to switch. After discussing the issue of fairness, I left things mostly up to the students. A

future tactic might be to have everyone round corners or sand for the first 20 or 30 minutes.

Construction. I cut plywood sheets into strips so the students started with a pile of strips 5-1/2" wide and 48" long. These strips had to be cut into the correct number of pieces of proper length. The long strips were inserted into the jig in Fig. 1 and cut at the proper slots. Students repeated this operation until we had 43 two-notch pieces, 27 four-notch pieces and 10 six-notch pieces to length.

The jig worked well. Students' tendency was to hurry and be swept up by the cutting, so I monitored to make sure they cut the proper number of pieces. Working in pairs helped. One worked sawing while the other set up the next piece. Some workers were so diligent they got blisters. I encouraged them to slow down and pace themselves. With 100 5-1/2" cuts, pacing is important!

Cutting the corners was straight forward. It was hard to make a mistake with the jig I constructed (Fig. 2), but it was hard work. We made 100 notched

pieces, and each piece had four corners to cut. Often after 10 minutes (two or three boards), students needed a rest.

There were over 1000' of edges to be rounded. Each piece, including the gable ends and roofboards, had to be rounded. Rounding the edges makes the pieces safer and easier to handle and gives a more attractive finish, but it is a tedious job. We started rounding edges on the first day, and finished on the eighth.

Safety. I started by giving a lesson on how to use a plane, explaining how sharp planes are. I demonstrated, let them practice on boards, observed them,



showed them again, and let them practice again as many times as needed. Spoke shaves and surfboards became the tools of choice for the ends and short pieces, while corner planes and block planes were used for the longer six- and 10-notch pieces and the roof boards. We rounded all the edges of each board before we cut the notches in it.

The rounded edges needed sanding—another long job. We had a sanding table with a blower to suck saw dust away from the boards as we sanded. We used two orbital finishing sanders with 80-grit flooring sandpaper.

The width, depth, and the spacing of the notches is critical. If the notches are too wide or deep, the house will be wobbly. If the notches are too tight, children using the house will become quickly frustrated. If the spacing between the notches isn't exactly the same, the boards will not line up when building a house.

To keep all these cuts in the right place I made a jig using a metal miter box to hold a back saw in exactly the right place. (See Fig. 3.) I used carefully measured stops to gauge the distance

between notches and a stick that was 1/16" thicker than the notch width to gauge the notch width. Although there are several steps to using this jig, the students caught on quickly and the notches came out in the right place.

Trial and error. We used a coping saw to cut between the saw cuts to form notches. The tendency was to clamp the longer boards in the vice up high so that they could cut two or three notches without moving the board in the vice. This did not work because the board moved back and forth instead of being cut. After a demonstration and some

Though sometimes tedious, sanding the corners and edges of the playhouse pieces was an important step in the building process.



trial and error, most students found it easier to put the notch they were working on as close to the vice jaw as possible and move the board after cutting out opposite notches.

Because notch width, depth, and spacing is so critical, it is necessary to check each and every notch. I stationed the jig for cutting notches next to the vice for removing the plywood between the saw cuts so the people doing these jobs could communicate with each other. If there was a problem, it could be corrected before many pieces were cut. I made it the responsibility of the person removing the plywood from the notch to ensure that each notch was the proper

width and depth and had the proper spacing.

Finishing the pieces was straightforward, and the kids enjoyed doing it. We used 1-1/2 gal. of clear oil, two coats on each piece, applying it with brushes and wiping with rags.

Finishing up. Laying out and cutting the gable ends was an exacting job for inexperienced woodworkers, but they enjoyed the challenge. Two students worked together, and I walked them through it step by step. Burning the school's name, students' names, and a design into one gable end was a popular activity that could be expanded to include both sides of both gable ends. Building boxes to hold the pieces was also a popular project, although it required accurate measurements. Usually two students worked together.

On the third day, it had become apparent that two of the students were not enthusiastic about woodworking. They probably felt about woodworking the way I feel about writing questionnaires and making phone calls, so when Carolee asked for volunteers to write a questionnaire and make phone calls, we had two eager volunteers.

The last day was exciting. As some students finished the last pieces, the rest took the playhouse outside to assemble it for the first time. They built and rebuilt it several times, discussing various shapes, entrances, and door and window placements. One student later wrote in his journal, "I was amazed at what we created and are going to give to the lucky kids who are going to get it. Most of us want to keep it for ourselves."

Students' pride. After the house was finished, five of the builders delivered it to the Womencare shelter business office and assembled it for an enthusiastic staff. For security reasons, we were unable to deliver it to the actual shelter and see the younger children use it. This was a disappointment but part of the lesson. Here are some comments from the builders' journals:

"The wood . . . would just be sitting there no matter if it just sat there for a minute or days. We changed that. We changed that wood into something uniquely made by us and extraordinarily beautiful."

"All the hard work, the elbow grease, the toil, the donuts have finally paid off. It looks like we'll have the playhouse done on time."

Miter box
guides saw

Removable stick
13/16" square
see note*

Board to be cut slides
in against stop

Install center stop first
and measure other stops
from it.

3-1/2
(+1/32)**

10-7/16

10-7/16

10-7/16

10-7/16

*This stick was designed for 3/4" plywood that measures 23/32" thick. The removable stick dimension should change if your plywood is a different thickness.

** If you add 1/32" here, measurements can be kept in 1/16s. Otherwise it gets confusing not to mention difficult to measure. Or just forget the 1/32". This will make the notches 1/16" closer to one end. No one will notice and it makes the measuring easier.

Fig. 3—Jig for cutting notches

"Before this I had only built a couple of things out of wood. Now that I have finished a project this big, I feel like I could go on and do something on my own. I think building a house would be an interesting project that I would like to try."

"When I got off the phone with Womenscare, I almost cried. I told

Carolee privately that those women over there and their children are in a 'sad predicament' and she told me domestic violence is one of the less funded items in our community.

Adults' reactions. One mom told me, "this is the only thing in school he's interested in." After the playhouse had

been in use we received the following letter from the shelter:

Dear Mr. McKee,

I recently received the video that you made of the construction of the Take-Apart-Playhouse. It is great to see young people gaining skills that benefit the community and having fun doing it! The work they did has been appreciated over and over by the children staying at the shelter. It is also an honor for Womenscare to be chosen as the recipient by the students themselves.

In the time that we have had the playhouse, many children have had hours of fun making the most creative "houses." The house is the first thing that kids run to when they go into the playroom.

On behalf of all of Womenscare (especially the children), I would like to offer you our sincerest thanks for your generosity. Also, if there is any way I could individually thank each of the students who worked on this, I would like to do so. *Thank you!*

Sincerely,
Maureen Baker
Children's Program Coordinator

I couldn't help thinking, "What's next?"