

Jump Ropes

We have worked in programs that have included both children and jump ropes for going on twenty years and have found very few jump ropes that will hold up to the use and abuse they receive. Now we know a simple length of rope will make a serviceable and long-lasting jump rope, but we want something with handles, something that looks like a jump rope. The wooden handles crack or splinter after hitting the ground a few times and the plastic ones are usually flimsy or poorly attached. The jump rope described below will stand up very well to lots of jumping and use as a dramatic play prop.

Ages

3

and up

TIP: Make sure children using jump ropes are always well supervised and know not to place the rope around their necks. Play safe.

Materials

- $\frac{3}{8}$ -inch rope
- Two 4-inch sections of $\frac{1}{2}$ -inch Schedule 40 PVC
- Two $\frac{1}{2}$ -inch Schedule 40 PVC end caps
- Three $\frac{1}{2}$ -inch Schedule 40 PVC pipe connectors

Tools

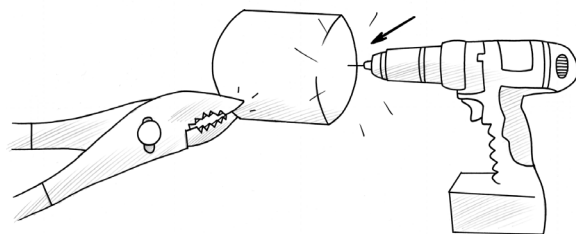
- Scissors
- Cordless drill with $\frac{3}{8}$ -inch bit
- Pliers
- Masking tape
- Hot-glue gun

Estimated Build Cost

\$15 should buy enough rope (100 feet) and pipe to make fifteen 6-foot jump ropes. If you grab the pipe from your Pipe Construction Set, you can get by with only spending a few dollars on rope.

Directions

1. We'll do the hard part first. Drill a $\frac{3}{8}$ -inch hole through each PVC end cap. Use the pliers to grip the caps firmly as you drill. Do not try to hold the end cap with your hand. The piece will try to spin and you will risk an injury. If you are uncomfortable with this step, ask someone with more power tool experience to do it for you.

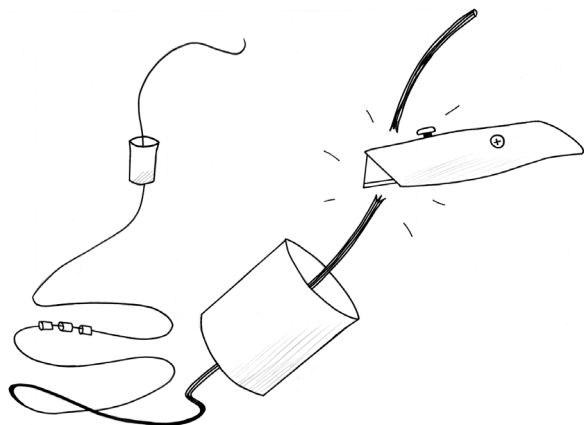


2. After your holes are drilled you will need to determine how long to make your jump ropes. This will depend on the size of the children who will use them. You may also want to make a longer rope for use by a group.

3. Add about 12 inches to your desired final length. Wrap some tape tightly around where you plan to cut the rope. This will help you get a clean cut and keep the rope from fraying.

4. After making the cut, thread the three PVC pipe connectors onto the rope. These pieces will self-center on the rope when it is spun, and their added weight will draw the rope to the ground for easier jumping.

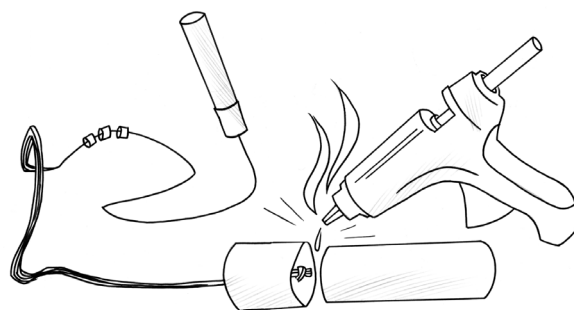
5. Now add an end cap onto each end of the rope; make sure you have about 12 inches of rope pulled through the cap on each end. Then push the rope's outer casing down and cut out about 6 inches of the rope's core.



6. The next step is to knot the outer casing a few times so that it will not pull back through the hole.

Cut off any excess rope casing after the knot. Do this on both sides and then pull the caps so they meet their corresponding knots.

7. The last step is to hot-glue a 4-inch pipe section into each end cap. You can use PVC cement instead of hot glue if you have it available. You've just created a very durable kid-size jump rope. Have fun.



Storage

Store your jump ropes with your other outside play equipment.

What's Learned

Jump ropes are great for developing large-muscle skills and coordination. They will also come in handy as props for all kinds of active dramatic play.

Variations

- Vary the length of the ropes you make to meet the needs of different children.
- Play with your jump ropes inside and out.
- Jump ropes make great fire hoses, rescue lines, and other props during dramatic play.

Hinge and Latch Board



This project will last nearly forever and it will entertain young children for almost as long. It's simple: a piece of wood with a variety of hinges, latches, and hooks that they can manipulate. They will love playing with all the moving parts.

Ages
18 mos.
and up

Materials

- 12-by-24-inch piece of $\frac{3}{4}$ -inch thick wood
- Assorted hinges, latches, and hooks

Tools

- Cordless drill with $\frac{1}{8}$ -inch and $\frac{1}{16}$ -inch bits
- Phillips and flat-head screwdrivers
- Pencil
- Sandpaper, 100-120 grit
- Rag

Estimated Build Cost

This project should cost you between \$15 and \$25 to build.

Directions

- 1.** Use your sandpaper to make sure the board is smooth and take the time to gently round the edges and corners to prevent splintering. The hardware you select should be small to medium in size; don't select a huge set of hinges or a giant gate latch. Keep the size of your board in mind when shopping.
- 2.** Next, lay out your assorted hardware to ensure that it all fits and that there is room for its operation. Leave plenty of open space between items. If things are too crowded, children can get confused. You do not want to crowd too many items onto the board.
- 3.** After you are happy with the layout, mark the hole locations with your pencil.
- 4.** The next step is to drill pilot holes for all the screws. This will reduce the risk of splitting your board and make driving the screws easier. The $\frac{1}{16}$ -inch bit should do the job in most cases, although the larger $\frac{1}{8}$ -bit might be necessary.

Defer to the instructions that come with the hardware when it comes to pilot-hole size.

5. After drilling all your holes, install the hardware with your screwdrivers. You could use the drill to do this, but the small screws are easy to strip and hard to hold onto while using a power tool.

6. After all the pieces are attached, wipe the whole thing down with a rag to remove any debris; many pieces will be covered with a light coat of oil.

7. This project is easy to use; just put it in front of the kids and step out of the way. They will instinctively start manipulating the hardware. We introduced this activity board to many children and not once were we asked, "How do you use this?"

Storage

This item will fit nicely on a shelf or in a large tote.

What's Learned

This project is great for developing small-motor skills in young children. It also teaches about cause-and-effect relationships while allowing tactile exploration of the materials.

Variations

- Mount the board directly to a wall at child height.
- Ask older children to practice manipulating the objects with their nondominant hand or even their toes.

Domino Block Set



Have you ever stood dominos on end so you could topple them? What fun. So much fun that we had to design some blocks that were easier for little fingers to maneuver. The children in our program soon discovered all sorts of other uses for these blocks as well. One sheet of plywood will make 1,024 of these versatile and fun blocks. The children will enjoy each and every one of them.



Materials

- 4-by-8-foot sheet of $\frac{1}{2}$ - or $\frac{5}{8}$ -inch cabinet-grade plywood
- Sandpaper, 100–120 grit

Tools

- Table saw
- Electric miter saw
- Someone comfortable using the above machines

Estimated Build Cost

A good sheet of plywood will cost between \$45 and \$75. Don't try to save money here; make sure you buy good materials or you will end up with poor quality and possibly an unsafe product. We suggest that you share the cost of materials with other early childhood educators and split the resulting blocks. You can also purchase a half sheet of plywood for about three-quarters of the cost.

Directions

1. We strongly recommend that you find someone who has a table saw he or she is very comfortable using to cut these blocks for you. This is not a hard project if you have the right tool and know how to use it properly. It is, however, very dangerous if you do not know what you are doing. We have shared these blocks with many care providers at conferences, and there have been very few who did not have a friend, neighbor, or family member who would be ready and willing to safely cut blocks for them. Look around and find the help you need.
2. When you, or your volunteer, are ready, the cutting can begin. We want to cut the 4-by-8-foot sheet of plywood into 1,024 pieces that are each $1\frac{3}{8}$ by $2\frac{7}{8}$ inches. With a sharp blade, rip the plywood into thirty-two $1\frac{3}{8}$ -inch strips. Lightly

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sand the sides of these strips to remove any burrs or splinters.

3. These strips should then be crosscut with the miter saw into the 2 $\frac{7}{8}$ -inch lengths. They will need some light sanding, but not much if the saw blades are sharp.

4. This is a lot of blocks. Another good idea is to use them as gifts. A set of these blocks makes a wonderful birthday or holiday gift for young children, especially if they have played with them in your program.

5. To use, simply make a row of upended blocks spaced an inch or two apart and topple it. The kids will quickly start building and toppling on their own.

Storage

Plastic milk crates are great for storing these blocks.

What's Learned

These blocks are great for working small-muscle skills and learning about cause-and-effect relationships, hand-eye coordination, and engineering. The children will also find all kinds of ways to integrate these blocks into their dramatic play. Other learning will take place with the variations below.

Variations

- Build stuff with them; they're blocks!
- Grab a marker and add faces to a few blocks to create people.
- Let the children decorate some of the blocks with markers.
- Add them to the dramatic play area, where they will become money, food, and other necessary items in the worlds the kids create.

Working at the Car Wash



This is another great summer fun idea. Hooked up to the garden hose, this project becomes a drive-through car wash for all riding toys and imaginary vehicles. Kids will love to put on their swimsuits and take turns driving or walking under the falling water.

Ages
12 mos.
and up

Materials

- Garden hose
- Two 10-foot sections of 1½-inch Schedule 40 PVC pipe
- Two 1½-inch Schedule 40 PVC 90-degree elbows
- Two 1½-inch Schedule 40 PVC wye-fittings
- Three 1½-inch Schedule 40 PVC caps
- 1½-inch pipe connector

- 1½-inch bushing with ¾-inch pipe threads
- ¾-inch brass female hose adapter

Tools

- Cordless drill with a ⅜-inch bit

Estimated Build Cost

It will cost less than \$15 to build this project.

Directions

- 1.** Cut two 4-foot sections from the first section of pipe.
- 2.** From the second pipe cut a 5-foot section and four 12-inch sections.
- 3.** To build your car wash, select the two wye-fittings and insert a 12-inch pipe into the two parallel holes; these will serve as the project's feet.
- 4.** Add a pipe cap to the ends of three of the feet.
- 5.** Now insert a 4-foot piece of pipe into the remaining hole of each wye-fitting.
- 6.** Attach a 90-degree elbow to the other end of each 4-foot section.
- 7.** Next connect the two leg sections with the 5-foot pipe. What you have built should look like a large version of the hurdle from chapter 8.
- 8.** The next step is to make the connections needed to hook the unit up to the hose. Insert the bushing into the pipe connector and then screw the brass hose adapter into the bushing.
- 9.** All you have to do now is connect this section to the foot without a cap. This is where you will attach your garden hose when you're ready to play.
- 10.** You should use PVC cement to permanently attach the feet to the upright pieces and the 90-degree elbows to the cross piece. This will allow you to break the unit down for storage and give it

the strength it needs to stand up to heavy use.

11. Now use your drill to make a series of 1/8-inch holes along the underside of the 5-foot cross section. Start with about eight evenly spaced holes.

12. Attach the hose and see how it works. If the water seems to be exiting the holes under too much pressure, turn down the water or add a few more holes.

13. To play, introduce children to the car wash and supervise the fun. We promise you will not need to explain how to use this piece of equipment.

Storage

In the off season, store this project in a corner of the garage. It can also be stored under a deck or left outside since it is completely weatherproof.

What's Learned

Children will learn the same things they learned with the last water play project: cause-and-effect relationships, fluid dynamics (how water acts), and logical thinking, along with the motor skills and

social skills that come with such activities. This is a wonderful sensory activity as well. They will also learn that cool water feels wonderful on their hot skin during a sunny afternoon.

Variations

- Introduce play money or car wash tokens so drivers can “pay” for their car wash.
- Add some buckets, rags, and sponges for more water fun.
- Squirt a bit of dish soap into the structure before connecting the hose to add some suds to the fun.
- Holes can be placed along the top or sides of the horizontal pipe for a different effect.
- Have children plug holes with their fingers and see what happens.
- Add a hole or two to the 4-foot uprights so the water comes out horizontally as well as vertically.
- Use the faucet to vary the water pressure. You can make it drip or spray from the holes depending on the faucet setting.