

Make Your Own Pump Drill

1 About half an inch from each end of one piece of cardboard, punch a hole. Find the center of the piece of cardboard and make a hole large enough that the dowel can slide freely through it. Try not to bend the cardboard as you do this. Use these holes as guides to make holes in the same places on the other two pieces of cardboard.

2 The pieces of cardboard will become the “push bar”—glue them together in a stack, making sure that the edges and holes line up. Put a large book on the stack so it stays flat and allow to dry overnight.

3 Hammer the nail part way into one end of the dowel. Use the wire cutters to cut the head off the nail. Then file the nail so that its tip has four sides that come together in a point. This will become the drill bit.

4 Screw the eyehook into the opposite end of the dowel.

supplies

- ☞ 3 pieces of sturdy corrugated cardboard, 2½ by 10 inches
- ☞ hole punch
- ☞ ½-inch diameter wooden dowel, 1 foot long
- ☞ all-purpose glue
- ☞ hammer
- ☞ nail
- ☞ wire cutters
- ☞ metal file
- ☞ small eyehook
- ☞ old compact disc
- ☞ electrical tape
- ☞ a cotton (not stretchy) shoelace, 40–43 inches long
- ☞ 2 beads large enough to fit on the shoelace
- ☞ old piece of wood

Colonial Words to Know

forge: a furnace or a shop with its furnace where metal is heated and wrought

bleeding: to remove or draw blood from—doctors bled patients for most

medical ills during colonial times

apprentice: someone who learns a trade or art through the practical experience of working under someone skilled at that trade or art

apprenticeship: the period of time an apprentice serves to become skilled at a trade or art, usually several years

inoculate: to inject a vaccine

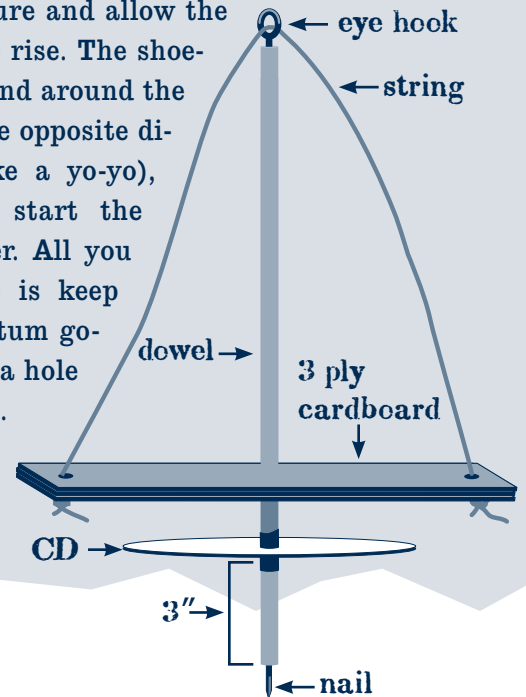


5 You'll need to mount the CD on the dowel 3 inches from the nail end. To do this, wrap enough electrical tape around the dowel that the CD fits snugly against the dowel. Glue the CD in place.

6 Slide the cardboard push bar onto the dowel above the CD. Tie a bead at one end of the shoelace and thread it up through one of the small holes in the push bar, through the eyehook and down through the hole in the opposite end of the push bar. Tie another bead below the second hole, so that the push bar stops about 1 inch above the CD.

7 Using a pump drill takes a little bit of practice, but once you have mastered the technique it's really easy (and fun!). Get a scrap piece of wood to practice on. Set the drill on the board, nail end down.

8 Holding onto the dowel, twist the push bar in a circle so that the shoelace winds around the dowel. When it's fully twisted, place your hands—one on each side of the dowel—on the push bar and gently push down. When the bar reaches the end of its slack, release pressure and allow the push bar to rise. The shoelace will wind around the dowel in the opposite direction (like a yo-yo), and you'll start the process over. All you need to do is keep the momentum going to drill a hole in the wood.



Colonial Medicine

The colonists generally believed that nature provided a treatment for every ailment. Most of these treatments were herbal or from animals or metals, and were available from apothecaries. Doctor fees were high, and often colonists treated themselves. If a doctor came to help a patient, one favored treatment was **bleeding**. The doctor might use a variety of methods for this treatment, such as piercing a vein with a lancet, cutting the skin with a razor, or applying leeches. Unfortunately, this treatment often led to shock or death, due to loss of blood.

Just as any craftsperson, doctors were trained by **apprenticeship**. But