WORKSHOP: "BOOT TAMBOURINE"

Summary: Participants attach a small branch to an old rubber boot using washers, a screw and some quick set concrete. They turn this into a tambourine by nailing sets of bottle caps to the top edges of the branch. Some participants also chose to paint their branch and add additional embellishments like bells. The boot is then played by lifting it by hand and stamping in on a resilient surface or the ground in time to music.

Materials and Equipment:

old rubber boot child size
branch about 2' long and 1-1.1/2" thick
washers that fit screws below
cordless drill
drill bits
2.1/2" #7 floor screws
matching screw driver
sandpaper
measuring cup
metal spoon
long concrete and water proof rubber gloves
water
fabric glue (we used Fabri-tac)
wood block
scrap felt
large wide nail for making holes in bottle caps
2 clamps
apron or old clothing (not provided)
sample artwork
instructions/ideas sheet
acrylic paint assorted colours
paint brushes assorted sizes
plastic lids for palettes or foil
t-shirt scraps for blotting paint brushes
2 plastic containers
cement all brand - rapid set or concrete mix
MSDS for concrete mix
metal bottle caps
hack saw
measuring spoons set
safety glasses
dust mask
measuring tape
hammer
safety glasses
hearing protection (e.g. ear plugs)
optional: scrap thin wire (about 18 gauge)
optional: pliers, cutters
optional: bells 10-15 mm diameter

Class Plan:

1. Choose a colourful kids size discarded rubber boot. Shoes and other closed type footwear work too. Smaller sizes are better so that the tambourine doesn't become too heavy.
   a. It doesn't matter if the boot has small holes or tears, in fact it is ideal to be salvaging something that

can’t be worn anymore.

2. Clean the outside of the boot with soap, water and a scrub brush.

3. Remove any debris from the inside of the boot, including the liner if possible.
4. Find a dry branch ~ 1.1/2” diameter from the ground in the woods. Don’t cut one off of a living tree.
5. Always wear safety glasses with sides when working with tools such as saws, hammers and drills.
6. Saw the branch to about 2’ long, making the end cuts perpendicular to the length of the branch, so it will stand roughly straight up on end.
7. Optional: If participants want to paint their branch it is easiest to do it now before attachments are added.
8. Drill holes spaced about 1-1.1/2” apart at the top and top side edges of your branch, angling them down toward the other end of the branch. Ideally, clamp your branch to your tabletop to make drilling safer.

9. Drill one hole in the other end of the branch in the centre, up the inside length of the branch. This hole is for attaching the branch to the boot.

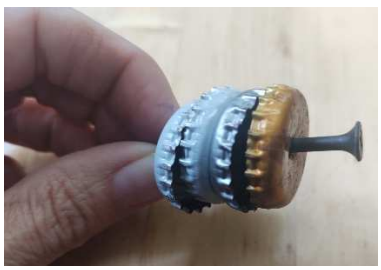
10. Drill a hole in the bottom of the boot centred in the leg section of the boot.

11. We used 2.1/2” #7 floor screws and a drill bit matching the diameter of the shank of these screws, and washers that fit over them.


12. Hearing protection like earplugs are recommended to protect your ears from the noise of hammering. Hammer on a sturdy table. Hammer a centre hole in about 3 dozen metal bottle caps, using a large wide nail and a block of scrap wood to work on.

a. If the holes have sharp edges, you can flatten them by just hammering straight into the bottle cap.

13. Thread 4 bottle caps onto each screw.



14. Using a screw driver, drive one screw with bottle caps into each hole on top (left) and each angled hole on the top sides of the branch (right).

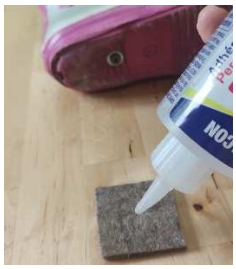

15. To attach the branch to the boot:
    a. Thread a washer over a screw to spread out the pressure.

    b. With a screw driver, drive the screw up through the bottom of the boot and into the branch inside the boot until it is all the way in and firmly attaches the boot to the branch.

    c. Twist the branch until it runs up through the middle of the boot leg and doesn't touch the sides. The boot on the left (below) needs twisting and the one on the right is correct.


16. Optional: Glue a square of felt on the bottom of the boot over the screw and washer, so that it doesn't

scratch or dent any surface it is on.



a. If your boot is not level, adding a square of felt on the bottom in the right place can help balance it.

17. To make the boot stand up, we will fill it with concrete. To work out how much concrete powder you need for your boot or shoe:
    a. Fill the boot almost to the top with water.

    b. Then pour the water into a measuring cup.

    c. Note how much water. You will need that much dry concrete premix. For a child's size 8 boot, we need 2 cups of concrete mix powder.

18. IMPORTANT: When working with concrete powder always wear a dust mask, concrete safe waterproof

gloves and work in a well-ventilated area. Do not get the concrete powder or wet mixture on your skin.

a. Keep the Material Safety Data Sheet (MSDS) sheet for your type of concrete handy so you know how to deal with any skin contact immediately.

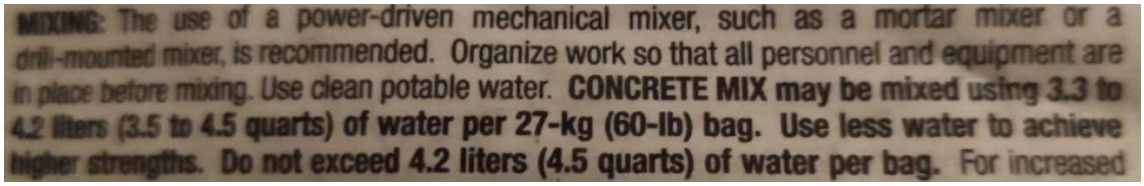
b. Supervise any concrete mixing and materials at all times and keep them out of reach of children.

19. For concrete, we tried two different kinds and both worked well.

a. The first one is “Rapid Set Concrete Mix”. This one had small gravel aggregate in it and was less expensive at about $29.27/bag size 27 kg (60 lbs) in 2023.

b. The second one is “Rapid Set Cement All” and is actually a high strength non-shrink grout. It was about $46.86/bag of 25 kg (55 lbs) in 2023. It sets very quickly, in a matter of 5 minutes, so working fast is necessary.

20. For the “Rapid Set Concrete Mix” the package says 3.3-4.2 L of water for 27-kg (60-lb) bag of concrete mix.


MIXING: The use of a power-driven mechanical mixer, such as a mortar mixer or a drill-mounted mixer, is recommended. Organize work so that all personnel and equipment are in place before mixing. Use clean potable water. **CONCRETE MIX may be mixed using 3.3 to 4.2 liters (3.5 to 4.5 quarts) of water per 27-kg (60-lb) bag. Use less water to achieve higher strengths. Do not exceed 4.2 liters (4.5 quarts) of water per bag.** For increased

a. **<u>That works out to 3-4 tsp of water per cup of concrete mix</u>**.

b. We need 2 cups of concrete mix so we used 6-8 tsp of water (which is 2-3 tbsp of water).

c. We needed to add a bit more water because it was a hot humid day.

21. This concrete sets quickly, so have everything setup for adding the mixture to your boot BEFORE you add water to your concrete powder.

22. Measure out the concrete powder into a slightly larger container.
23. Add water slowly until you have a mixture that can be poured into your boot, but is not soupy. Stir with a sturdy spoon (we used a metal one).
    a. If you have too much water or too little the concrete might not set properly.
    b. If you have too much water, add more dry mixture to reach the right consistency.
24. Wear concrete safe waterproof gloves that go up to your elbows. Pour/scoop the concrete mixture into your boot with a sturdy spoon. Push the concrete down into the toe of your boot. It doesn't matter if it goes all the way into the toe, especially if you have a larger size boot.

25. Clean your concrete tools right away, putting them into a bucket of water. NEVER CLEAN YOUR CONCRETE TOOLS INTO A DRAIN! The concrete will set and block it. Discard your water from cleaning outside.

26. Allow your concrete to set without moving it for about 20 minutes. See the package on the concrete you are using for instructions. Each type of concrete has a different set time.
27. Optional: Add other embellishments to your boot if desired.
    a. We used flexible scrap wire to attach a few colourful bells to the ends of the screws with bottle caps for extra jingle.

28. To play your boot, pick it up between the boot and bottle cap screws. Shake it and stamp it on a firm surface.

29. Happy creating, and please share pictures of your creations if you feel comfortable.

Useful Information/Adaptions/Variations:

- Store concrete mix safely, away from children and vulnerable populations. Only handle materials when using appropriate safety gear.
- Try using an adult shoe instead if you have a connection to a pair that has a hole and can't be repaired.
- If you don't have a drill, try using nails for attaching your bottle caps instead.
- Work in teams of two if any participants have difficulty doing some of the activity items. This makes it more fun anyway.

Trouble Shooting:

- If you can't get your concrete mixture all the way into the toe of your boot, don't worry. It will likely be heavy enough to stand up just by filling the leg section.
- If your concrete mixture is too runny, add more dry mixture to get the right consistency.
- If your boot has a hole, temporarily patch it with duct tape until the concrete has set.
- If it is too hard to put your screws in with a screw driver, try clamping your work to the bench and using a screw driver bit in a drill to make it easier. Always wear safety glasses when using tools.

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