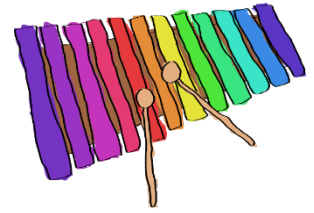




Water Xylophone



Gather

- Water
- Jars
- Food Coloring (optional)
- Mallet of some kind (wooden spoon, chopsticks, metal spoons, pencils, or pens)

Let's Experiment!

1. Line up the empty glasses and tap each one with your mallet. Remember that sound!
2. Fill the first glass almost to the top with water.
3. Continue with the other glasses, filling each one slightly less than the one before it so that the final glass has the least amount of water.
4. Add a different food color to each jar if you'd like to make a colorful instrument!
5. Use the mallet to tap gently on the side of the fullest glass and then compare that to the sound all of the others make. What happens to the sound as the amount of water decreases?

How Does it Work?

Sound waves are vibrations that travel through all kinds of matter, in this case they travelled through air, the glass jar, and the water inside the glass. When there was more water, the sides of the glass container couldn't vibrate as quickly as when the glass was empty. Quicker vibrations produce a higher sound, while slower vibrations produce a lower sound.

Take it Further!

Fine-tune the amount of water in each glass so you can play a simple song (try "Twinkle-Twinkle Little Star" or "Mary Had a Little Lamb"). You can use an online tuner to help you match your notes so you can be pitch perfect!

<https://www.imusic-school.com/en/tools/online-tuner/>

Here's a link to more percussion music played on boom whackers, buckets, and cups courtesy of the Harvard Percussion Section. What kind of homemade instrument could you make next?

<https://www.youtube.com/user/HarvardTHUD/featured>