



NOISY CUP

How much noise can you make with a paper cup?

Materials

- Plastic cup
- 12 inch string
- Half of a toothpick



Procedure

- Make a small hole in the center of the bottom of your cup. You can use the toothpick or your pencil to make the hole.
- Insert the end of the string through the hole in the cup. Tie the string around the half-toothpick, so the toothpick will be on the outside of the cup.
- Hold the cup in one hand and pinch the string between your thumb and index finger with your other hand. Gently run your fingers down the string a few times. Did you hear anything? Try pulling the string a little harder so that the string becomes taught or wetting the string with a little bit of water. Did the sound change?

Results

The friction between string and your fingers causes the string to vibrate, and the sound is amplified by the cup.

Why?

Sound waves are produced by vibrations traveling through molecules in a liquid, solid, or gas. When an object, like a piano string, vibrates, it sets the air around it into motion. That vibration can be picked up and amplified by surrounding materials. If the vibrations are absorbed but not released, then the sound becomes quieter or dampened.