

Canned Instrument

Introduction

Milwaukee loves music - Summerfest, 20+ ethnic festivals, concerts in the parks, and street festivals, just to name a few. Celebrate the diversity of music by making a DIY instrument from items found at home.

Think about this

How does the shape of an instrument change the sound of the instrument?

Materials

- ✂ 1 plastic or cardboard container, emptied and rinsed
 - A frozen juice container, plastic juice can, or yogurt container would all work
- 1 to 2 feet of dental floss or 1 to 2 feet of fishing line
 - Rubber bands could be substituted if needed
- A small stick
 - A clothespin, stick from outdoors, or a popsicle stick could all work
- Scissors

Directions

The sitar is an instrument that is typically pear-shaped and is plucked to make sound. Combine items from your home to make an instrument to learn about the importance of tension and pitch in music.

- 1 Place the container on a workspace with the open end facing up.
- 2 Use a scissors to make two small cuts, about 1 inch long, on opposite sides of the open side of the container (at 12:00 and 6:00).



- 3 Wrap and tie one end of the string to one end of the clothespin or stick.

- 4 Place the clothespin on the closed end of the container so that the string hangs down and is in line with one of your slits. Hold down the clothespin.

- 5 Run the string through the slit at the open end of the can, across the opening, through the second slit, and back up to the clothespin.

- 6 Pull the string tight, and wrap and tie the string to the other end of the clothespin.



Canned Instrument Continued

- 7** To play the instrument, pluck the string.
- Try playing the instrument with your finger and then try to use a small object, to play it. What do you notice?
 - With your hand, gently squeeze the open end of the container to change its shape. What do you notice? How does the sound change if you squeeze in another direction?

What's Happening?

Plucking the string of the instrument makes the string vibrate - our ears hear vibrations as sounds. Changing how hard the string is plucked changes how loud the string sounds to us. Changing the tension (how much the string is stretched) changes the string's pitch, how high or low it sounds.

Squeezing the container can do two things: it can increase or decrease the tension on the string, which our ears hear as higher or lower pitches. Squeezing the container can also change how much of the container is touching the string, which changes how much of the string is able to vibrate. Shorter strings tend to be higher in pitch, longer strings tend to be lower. Instruments like guitars sometimes have a piece called a whammy bar, which also changes the tension in the strings, resulting in notes sounding higher or lower after they've been played.