

# DIY Straw Flute

The science behind a straw flute involves principles related to the physics of sound, particularly the production of sound waves and their manipulation to create different pitches.

## Some important characteristics

**Sound in Straw Flute:** Sound happens when things vibrate. With a straw flute, vibrations occur when you blow air through the straw.

**Pitch and Length:** Pitch is how high or low a sound is. In a straw flute, the length of the straw decides the pitch. Longer straws make lower sounds, while shorter straws make higher sounds.

**Open and Closed Ends:** Straws have open and closed ends. The open end lets air out, and the closed end bounces air back. This bouncing makes certain sounds stronger, creating different pitches. Covering or uncovering the ends changes how long the air column vibrates, altering the pitch.

**Resonance:** Resonance happens when the vibrating air matches the straw's natural frequency. This makes the sound louder. Aligning straw lengths is crucial for creating resonance and different notes.

**Mouthpiece:** The mouthpiece is where you blow air. How you blow—angle, force, and speed—affects how loud and good the sound is.



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## Activity Overview:

Here's a step-by-step guide to help you make your own straw flute.

## What you need:

- Drinking straws (multiple colors, if possible)
- Craft Scissors
- Tape
- Popsicle stick

## Instructions:

- **Select your straws:** Choose several drinking straws of different lengths. The lengths will determine the pitches of the notes produced by your straw flute.
- **Cut the straws:** Use the Scissors to cut the straws to different lengths. You may want to create a range of lengths to produce various notes. You can refer to a musical scale or experiment with different lengths to achieve the desired pitches.
- **Arrange the straws:** Line up the straw pieces in order of length, with the shortest on one end and the longest on the other. This will create a graduated scale for your flute.
- **Attach the straws together:** Line up the straws in the desired order. Use clear tape to secure the straws together, making sure they are tightly connected. Leave a small gap between each straw to allow air to flow through.
- **Secure it with a popsicle stick.**
- **Play the straw flute:** Place your lips over the opening, and blow air gently into the flute. Experiment with covering and uncovering the ends of the straws to produce different notes.

