

Straw Flute

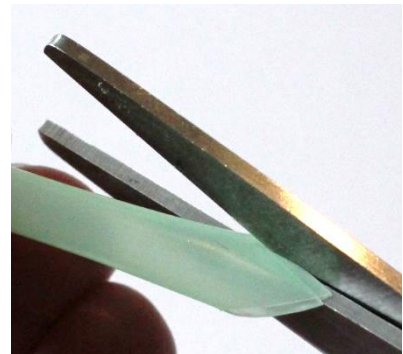
Materials

- Plastic drinking straw
- Scissors



Instructions

1. Use the scissors to make two cuts in one end of the straw to make a point.
2. Flatten the pointed end slightly.
3. Hold the pointed end between your lips and blow to make a sound. It might take a bit of practice!
4. Cut small sections off the end of the straw and listen to how the sound changes.



What happens?

All sounds start with something vibrating. In the Straw Flute, the pointed end vibrates between the player's lips. As the straw vibrates, the air inside the straw vibrates and the surround air vibrates to create a sound wave. When the straw is long, the vibrations are slower, and it makes a low-pitched sound. As the straw is cut shorter, the vibrations are faster, and it makes a higher sound.

Although it is the pointed end of the straw that starts vibrating first, the rest of the straw also vibrates to create the sound. When the straw is longer, the low pitch sounds are louder because a longer straw amplifies slower vibrations. When the straw is shorter, the high pitch sounds are louder because a shorter straw amplifies faster vibrations.

Related activity

Try filling glass bottles with different amounts of water. Use a spoon to tap on each bottle in turn and listen to the different sound made by each bottle. Bottles that are full of water will make a lower sound than bottles that are empty. Now try blowing across the tops of the bottles to make a sound. The order of pitch is now reversed, with the empty bottles making lower sounds and the full bottles making higher sounds. Blowing across the tops of the bottles causes the air in the bottles to vibrate, and the more air there is, the slower the vibrations will be, and the lower the sound.