



## Making Music with Straws

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Working with one or more partners, make a variety of straw instruments and then create a song.

Here's how:

1. Flatten the last inch of the straw with your teeth, making sure that you don't curl the end. Flatter is better, so really press down hard.
2. Cut the corners off the straight, flattened end of the straw.
3. Place the cut end of the straw into your mouth, seal your lips around it, and blow until a "sound" is produced. You'll feel the entire straw vibrate as the sound is made. Don't give up if you don't make music right away; you may need to re-position the straw and try it again. You've just made a "double reed" mouthpiece, similar to an oboe.
4. Using other straws, cut small sections off the ends while you're making the sounds. Listen for changes in the pitch as you cut the straws to different lengths. Watch out for your lips! 😊
5. Make a number of these straw oboes with your partner(s) and then create a song!

After you have created the next big iTunes hit, answer the following in your science journal:

- Why do these straws make music?
- Why do the different length straws make different sounds?
- How much money will you make will you make selling the rights to your song???

## HOW DOES IT WORK?

When adjusted properly, the flattened ends of the straw will vibrate as air flows over them. The vibration is passed on to the column of air inside the straw. This is just like the double reed on some woodwind instruments. The vibrating reed produces the oboe-like sound in the straw based on the length of the straw. By cutting off pieces of the straw, you alter the length of the air column and thus change the pitch. The English horn, oboe, and bassoon all use this same principle of vibration to make sound. These instruments, however, change the length of the column of air with holes, stops, and pads. Scissors are impractical.

<http://www.stevespanglerscience.com/lab/experiments/musical-straw#sthash.05JEUKX7.dpuf>