



Ages: 5-13 yrs

Time Required: 15-30 min

Scream Cup

Make a sound making contraption!

Materials

- Paper cup
- One toothpick
- 12 inches of string

Try this!

Step 1: Cut toothpick in half.

Step 2: Flip the cup and poke a hole as close to the center as possible with the pointy end of the toothpick.

Step 3: Thread the string through the hole. You can use the split end of the toothpick to push the string through.

Step 4: Pull the string from the inside of the cup and tie the end to the toothpick.

Step 5: Pull on the other end of the string and soak it in water.

Step 6: Hold the cup with one hand, and with your other hand pinch the string near the bottom of the cup and slide your finger down it firmly.



What's going on?

To make a sound you need a vibration! When you rub the wet string, the friction of the string is creating vibrations that travel all the way into the cup, and it even makes the air molecules in the cup vibrate too. That's where the sound from your scream cup comes from! Sound production in animals is used as a mean of information transmission. Sounds are termed vocal when produced in the respiratory system and mechanical when produced by mutual contact of body parts or by contact with some element in the environment. Many animals possess special structures for producing mechanical sounds. Crickets and grasshoppers produce sound by rubbing together rasplike structures on their wings. What do you think, Is your scream cup making mechanical or vocal sounds? Are you using your lungs, or rubbing together some structures?

Visit <https://www.floridamuseum.ufl.edu/science/florida-frog-calls/> to hear some cool sounds made by frogs you can find in Florida! What do you think, are these frogs making mechanical or vocal sounds?

Extension Activity

Let's do an experiment! What would happen if you changed the size of cups? Do different sized cups have the same amount of air in them? You can also give your cup a bit more personality by drawing some animals on your cup! Also, if you make more than one scream cup, try tying the end of the string of each scream cup to each other. When you do this you will have two cups connect by one string, and you would have also made telephone cups! Have one person put one of the cups on their ear and talk into the other cup, but make sure to have your string nice and stretched when you talk into the cup, because if you don't the sound wont travel to the other side because the string isn't vibrating.

Additional Resources

You can visit <https://www.floridamuseum.ufl.edu/educators/resource/scream-cup/> to see a step-by-step guide on how to make this activity!