

CURIOSITY AT HOME

SINGING GLASSES



Did you know you have a musical instrument sitting in your kitchen cupboard? Wine glasses have been used for hundreds of years as a unique way to make music. See if you can make a song all by yourself at home!

MATERIALS

- Wine glasses (3 or more)
- Water

PROCEDURE

- First, pour some water in a wine glass, at least halfway full.
- Next, dip your finger in the water and rotate it to make sure it is completely wet.
- Now, run your wet fingertip along the rim of the glass in a slow, circular motion. Do you hear a sound?

EXPLORE MORE

Take two more wine glasses, and put them on either side of the first glass. Fill one with LESS water than the first glass, and fill one with MORE water than the first glass. Place them in order from least water to most water.

As before, run your wet fingertip around the rim of all three glasses. Do you hear sounds, as before? What do you notice about the relationship between the sound you hear and the amount of water in the glass?

WHAT'S HAPPENING?

The sound you hear from the wine glasses is produced from something called a “stick and slide” action. Normally, your dry finger would not produce much of a sound if you slid it around the rim, but because your finger was wet, your finger was sticking to the glass and then sliding. This happened so quickly that it made the glass vibrate, which created a sound. All sound is made of vibrations of molecules.

The water in the glass acts as a dampener, making the vibration slow down. The slower the vibration, the lower the pitch of the musical note.

Experiment continued on next page...



Show us how you're being curious! Share your results with us.

PACIFIC
SCIENCE
CENTER



CURIOSITY AT HOME

SINGING GLASSES



K-2 GRADE EXPLORATION

- Do you hear a high sound or a low sound? Pitch is defined as how high or low a sound is. Place your glasses in order from lowest pitch to highest pitch.
- What would happen if you don't wet your finger? Make a guess, then try the experiment again with a dry finger. What happened? Why do you think your results were different?
- Take a few more glasses and put different levels of water in them and see if you can make a song.



Show us how you're being curious! Share your results with us.

PACIFIC
SCIENCE
CENTER



CURIOSITY AT HOME

SINGING GLASSES



3–5 GRADE EXPLORATION

- Do you hear a high sound or a low sound? Pitch is defined as how high or low a sound is. Place your glasses in order from lowest pitch to highest pitch. Why do you think glasses with different amounts of water make a different sound?
- Take a few more glasses and put different levels of water in them. Can you make a song out of all the different sounds you have?
- What other things can you change about the sound you're creating? What would happen if you used a different shaped glass, or a different liquid besides water? Pick one thing to change about your experiment and test it out. What similarities and differences did you notice compared to the original experiment?



Show us how you're being curious! Share your results with us.

PACIFIC
SCIENCE
CENTER



CURIOSITY AT HOME

SINGING GLASSES



6-8 GRADE EXPLORATION

- What is sound made of?

Hint: Put your finger to the side of your throat and say “Aaah!” What do you feel?

- Pitch is defined as how high or low a sound is. Place your glasses in order from lowest pitch to highest pitch. If sound is made of vibrations, why do you think glasses with different water levels make sounds with different pitch?
- Choose a simple song, like Twinkle, Twinkle Little Star or the Alphabet Song. Can you manipulate the water level in the glasses to make the first few notes of a song? How many glasses would you need to play the whole song? See how far along you can get!



Show us how you're being curious! Share your results with us.

PACIFIC
SCIENCE
CENTER

