Sound is made when something vibrates (moves back and forth). When you tap a glass with water in it, both the glass and water vibrate. But it doesn't stop there. The vibrations also make the air inside and around the glass vibrate. You hear the vibrations of the air as sound. When you add more water to the glass and tap it again, everything vibrates differently and you hear a new sound. Does the sound get higher or lower as you add more water to the glass?

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**Real Glass Xylophone**

Sent in by Christian of Portland, OR

Tap some tunes with a spoon and 8 glasses of water!

**What You Need:**
- 8 drinking glasses of the same size and shape
- container of water
- metal spoon

**What You Do:**

Fill one glass with water and put an empty glass next to it. What would you hear if you tapped each glass with a spoon? Do you think the empty glass would sound higher than, lower than, or about the same as the full glass? Make a prediction.

Test your prediction. Tap each glass with the spoon.

Now use all 8 glasses. Place the glasses on a table so that they're lined up, but not touching.

Fill each glass with a different amount of water.

Then with a spoon, tap on each glass in the same place. What do you hear?
You bet! By making notes for a song on a glass xylophone (real or virtual), you were thinking like a scientist! Want to know how?

Were you exploring the natural world? Yes! You were experimenting with things like sound, pitch, and vibration. (Get the science scoop on these science concepts.)

Did you wonder what would happen if you changed the amount of water in a glass? That's asking questions.

Did you think about how sounds from an empty glass and a full glass would compare? That's making a prediction.

Did you change the size of a glass or the water level? That's changing a variable. (A variable is one thing you change to see how it affects the experiment.)

After each change, did you tap on a glass? That's testing the variable you changed.

All these things are part of exploring the world through scientific inquiry! It's as simple as asking questions, making predictions, testing your ideas, changing a variable, and sharing results.