

Topic: Sound

Bottle flute

<http://www.kidspot.com.au/kids-activities-and-games/Science-experiments+10/Bottle-Flute+11060.htm?>

Making music does not have to be a terribly noisy experience. Making music with these glass bottles can actually be quite pleasant. Give it a go and see if you can make a tune to impress.

What you need:

2 (or more) glass bottles
water

What to do:

Fill the glass bottles with different amounts of water, without filling any to the top.

Blow gently across the top of the bottle so that you can hear a note.

Now blow gently across all of the bottles. They should all make different notes. Why? Because blowing air inside the bottle makes the water vibrate, creating the note.

Topic: Sound

Use a Balloon to Amplify Sound

<http://www.sciencekids.co.nz/experiments/balloonspeakers.html>

Small sounds can still make a big noise when you use a good sound conductor. Experiment with a balloon, compressed air and your own ears to find out how it works and the science behind it.

What you'll need:

- Balloon

Instructions:

1. Blow up the balloon.
2. Hold the balloon close to your ear while you tap lightly on the other side.

What's happening?

Despite you only tapping lightly on the balloon your ears can hear the noise loudly. When you blew up the balloon you forced the air molecules inside the balloon closer to each other. Because the air molecules inside the balloon are closer together, they become a better conductor of sound waves than the ordinary air around you.

Topic: Sound

Making Music with Water

<http://www.sciencekids.co.nz/experiments/makemusic.html>

Have you ever tried making music with glasses or bottles filled with water? I bet you favourite band hasn't. Experiment with your own special sounds by turning glasses of water into instruments, make some cool music and find out how it works.

What you'll need:

- 5 or more drinking glasses or glass bottles
- Water
- Wooden stick such as a pencil

Instructions:

1. Line the glasses up next to each other and fill them with different amounts of water. The first should have just a little water while the last should almost full, the ones in between should have slightly more than the last.
2. Hit the glass with the least amount of water and observe the sound, then hit the glass with the most water, which makes the higher sound?
3. Hit the other glasses and see what noise they make, see if you can get a tune going by hitting the glasses in a certain order.

What's happening?

Each of the glasses will have a different tone when hit with the pencil, the glass with the most water will have the lowest tone while the glass with the least water will have the highest. Small vibrations are made when you hit the glass, this creates sound waves which travel through the water. More water means slower vibrations and a deeper tone.