

16 - Soundwaves

On this super fun episode of Who Smarted? we'll help you discover the incredible way your brain turns SOUNDWAVES, caused by VIBRATIONS, into hearing. Special Guest Star Madame Sounds-A-Like will help you SEE sound!

Listen anywhere you get your podcasts including Apple Podcasts, Google, Spotify, Stitcher, OR at our site Who Smarted?

Some wild facts your kid will learn on this episode about soundwaves:

All soundwaves are created by vibration, this includes -- two objects hitting or rubbing against each other, the rapid expansion or contraction of air (like thunder), or the vocal cords in your throat.

Low sounds are the result of large, slow soundwaves, while higher sounds result from faster, smaller soundwaves. This is called low frequency vs high frequency, with the "frequency" referring to the frequency of the soundwaves.

The pressure of the soundwaves vibrates your eardrum, which is the first step for your ear to send electrical signals to your brain.

And if your kid wants to know exactly how the ear turns air pressure into brain signals:

There are three tiny bones inside your ear, collectively known as ossicles, that transfer the vibration of your eardrum to the fluid in your inner ear, creating little waves in the fluid. Those waves are then converted into electrical signals which are sent to your brain to process as "hearing".

Keep the learning going:

Have your kid close their eyes, while you gently clap in front of them, behind them, and on the left and right of their heads. Ask them to identify where you are clapping each time. Now ask them to cover one ear tightly and repeat the experiment. It should be harder to identify the location of each clap the second time. This demonstrates how your brain uses auditory information from BOTH ears to locate the source of a sound.

After the episode, have your kid notice sounds in their environment. Which ones are lower and which ones are higher pitched? Have them draw soundwaves for these sounds based what they learned about long, slow soundwaves vs. short, fast soundwaves.

Madame Sound-A-Like is an expert mimic. See what sounds/noises you and your kids can mimic. Try to guess the sounds each of you are making!

And if you're enjoying the podcast, please subscribe on your favorite podcast app if you haven't already, and please take 45 seconds and leave us a great review on Apple podcasts.¹

¹ This activity guide is for the Who Smarted? podcast www.WhoSmarted.com