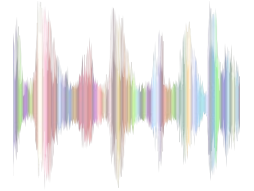




Good Vibrations: The Science of Sound



What is Sound?

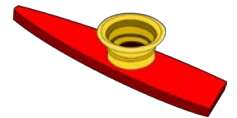
Sound is a type of energy made by a vibrating object which causes movement. This vibration creates sound waves that travel much like ripples in water when you throw a rock into a pond. Sound waves can move through matter such as air, water, or other materials.

Our ears collect the vibrations and pass them down the ear canal to the eardrum. The eardrum vibrates like the head of a drum. Other small bones in the ear continue the vibrations until they reach the inner ear, where they are changed to signals that are sent to the brain.

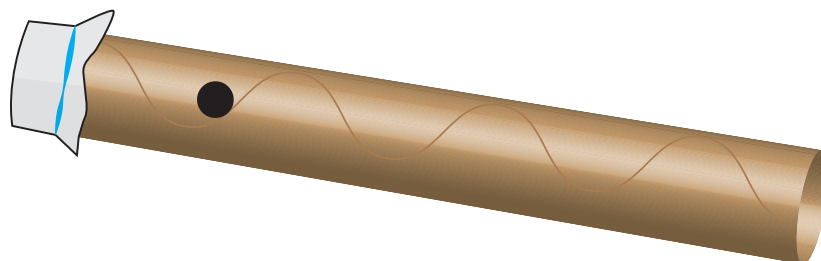
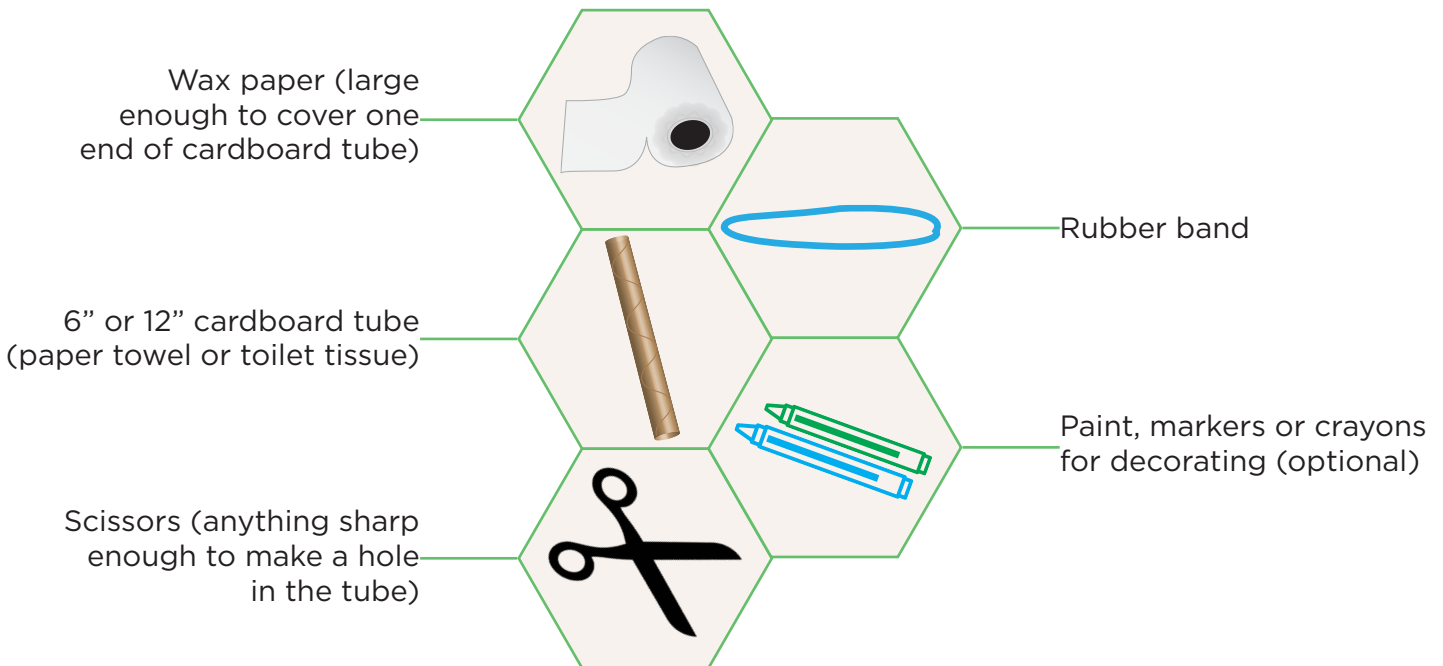


The Experiment

Do you know how to hum? Practice humming with a sibling or parent. A kazoo is an instrument that helps make a humming sound louder by making more vibrations. Create your own kazoo and explore the science of sound!



Materials



Making the Kazoo

| | |
|---------------|--|
| Step 1 | Place the wax paper over one end of the cardboard tube. |
| Step 2 | Use the rubber band to hold the wax paper in place as shown. |
| Step 3 | Create a small hole in the cardboard tube. |
| Step 4 | Decorate your kazoo if desired. |
| Step 5 | Hum into the open end of the kazoo. Hum a familiar tune or make up your own. |

Dinner Talk

Talk with your family, siblings, friends, etc about this experiment.

- What was the coolest part of the experiment? Why?
- Does your humming noise sound different when you use a kazoo?
- What is vibrating on your kazoo?
- Do you think changing the length of the kazoo would change the sound? Try it.

Extra Enrichment

Poke more holes in the sides of your kazoo. Does covering the holes change the sounds you make?

Try changing the material you cover your tube with (saran wrap, aluminum foil, or parchment paper for instance.) Do any other materials work better? Why or why not?

Visit

Good Vibrations! A Spark Activity: <https://youtu.be/kz3GbrBL6TM>

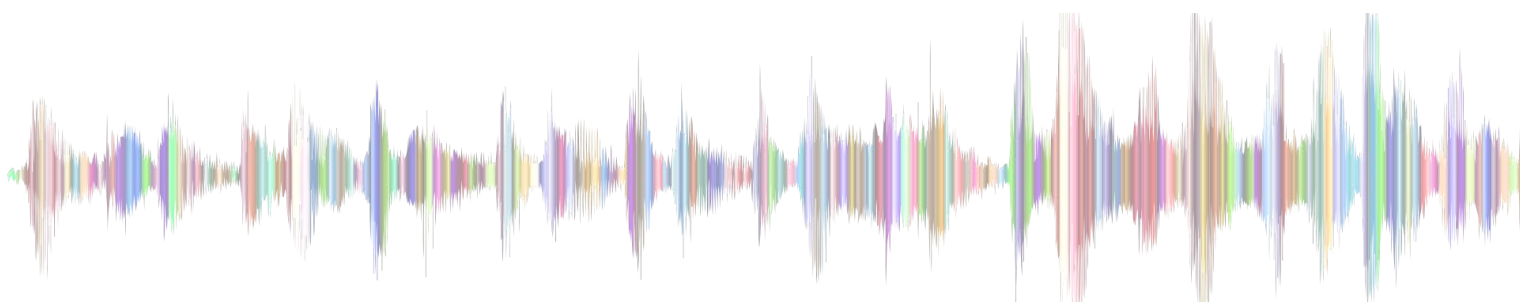
The Science of Sound: <http://bit.ly/2DstYK5>

What is Sound? YouTube: <http://bit.ly/2R0TtoH>

Sound for Kids - Sound Waves and Vibrations
YouTube: <http://bit.ly/2QZddIZ>

Learn About Sound - Nat Geo Kids Sound Playlist
YouTube: <http://bit.ly/2NHw2Cu>

Explore different animal sounds and how they rely on sound waves to communicate.



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