



MAKER ED

LEARNING IN THE MAKING:

Rhythm & Sound

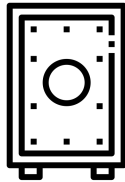
INTRODUCTION

What's that you hear? Birds chirping? Cars passing by? Laughter? Sounds are all around you and those sounds you hear are all created by vibrations!

People all around the world use sounds and vibrations to create music. Throughout history, people have used music as a source of joy, to mark important events, and to unite people during difficult times. That's why music and the instruments that accompany it have so much cultural history and meaning -- and is why we often turn to music when we need to feel connected.

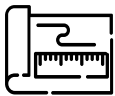
IN THIS ACTIVITY, YOU WILL:

- Explore sounds
- Make an instrument
- Create a rhythm



Tools & Materials of Making

- **Peruvian Cajón:** cardboard box, scissors, writing utensil, tape
- **Shaker/Maraca:** empty bottle or container
Filler: rice, beans, seeds or pebbles
- **Make Your Own:** pots & pans, bucket, spoons, cans, tape, etc.



ACTIVITY INSTRUCTIONS



EXPLORE

Ever wonder where sounds come from? Sounds are made by **vibrations** or shaking motions. These vibrations move air particles, creating soundwaves that eventually reach our ears and create vibrations in our eardrums.

- Explore the different **pitch** and **volume** of sounds you can make with different materials around the house



To learn more about sound, check out this lesson from Science World:
<https://www.scienceworld.ca/resource/sound/>

Subject

Science, Music



Standards

NGSS: 1-PS4-1.

Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.



Grades

K-2nd
3-5th
6-8th
9-12th



Key Terms

- Vibrations
- Pitch
- Volume



BUILD

Peruvian Cajón

The cajón is a square drum found in Peru and other Latin American Countries. It's history is connected to slavery and colonization in the Americas. West-African enslaved people that were shipped to work in the Spanish Colonies in Peru were banned from making music and practicing their language and culture. However, this didn't stop them from creating the cajón out of readily available shipping crates and boxes!

Materials: cardboard box (preferably one you can sit on), writing utensil, scissors, circular object, tape

Directions:

1. Trace a large circle on one side of the box and cut it out using scissors to make a hole. The sound will come out from this cavity.
2. Slap different parts of the box to create different sounds.



Shakers or Maracas

Maracas or shakers come from the indigenous tribes in Latin America. It's origins are connected to what we now call Puerto Rico, Brazil and Venezuela. They are traditionally made with a dried hard-shelled fruit and filled with seeds or pebbles. Maracas were used in indigenous chants and ceremonies to add vibrant sound.

Materials: small empty bottle or container with lid
Filler: rice, beans, seeds or small pebbles

Directions

1. Fill the container $\frac{1}{3}$ of the way with filler.
2. Close the lid and shake!

For handles, use spoons, easter eggs, rice, and tape with these directions:

<https://www.fun365.orientaltrading.com/project/easy-diy-maracas-craft>



Make Your Own

Gather materials you have around the house - such as pots, pans, buckets, and spoons - and see what kinds of sounds you can make by playing with the materials, size and shape.

COMPOSE

Now that you've built your instrument of choice, compose or create your own rhythms and beats.



Reflect After you complete the activity, reflect on your experience:



- How did small changes to your instrument change the sound that it makes?
- Why do you think music and instruments are found throughout the world?



Helpful Tip:

Small changes with size, shape and materials will change the sound of your instrument



Vibrations are shaking motions



The high or low quality of the sound that you hear is called the **pitch**. Changing the number of vibrations per second changes the pitch.



Volume, or loudness, is related to the strength, intensity, pressure, or power of the sound. Bigger vibrations result in bigger or louder sounds.



The use of **Body Movements** as an instrument to create music and dance gets its root from African and Latin American culture. Use clapping, slapping, stomping and chanting movements to create your own rhythm and beats.



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bit.ly/MakerEdMusic



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makered.org

