



Eddie Vedder performing at Memorial Stadium, Seattle, July 22, 1998. MOHAI, Seattle Post-Intelligencer Collection, 2000.107.19980722.1.09.



The Seattle Sound

The electric guitar has played a big role in Seattle music history, perhaps most notably as a distinctive feature of grunge music, an alternative rock style that emerged in the Seattle area during the mid-1980s and became a national sensation by the 1990s. But Seattle's history with the electric guitar goes all the way back to the 1930s, when local performer and music teacher Paul Tutmarc designed what is believed to be the first electric bass guitar ever made.

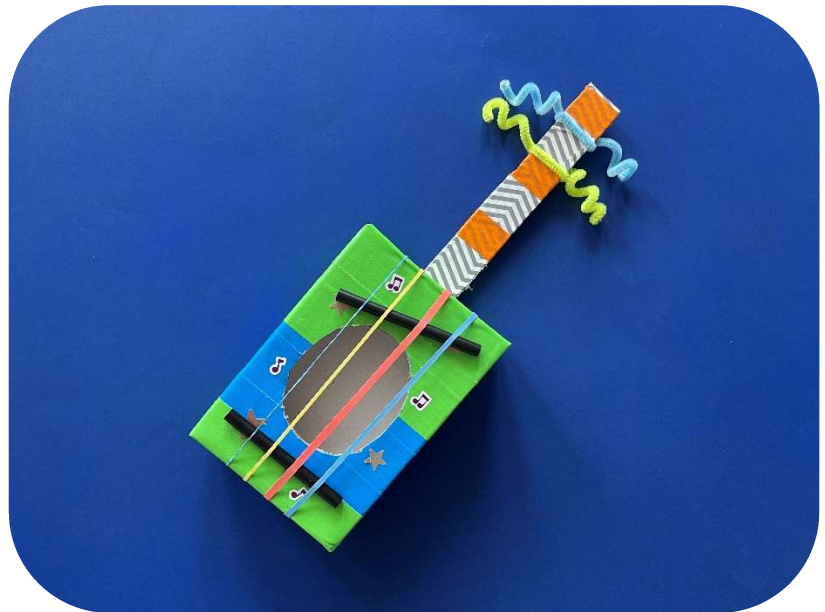
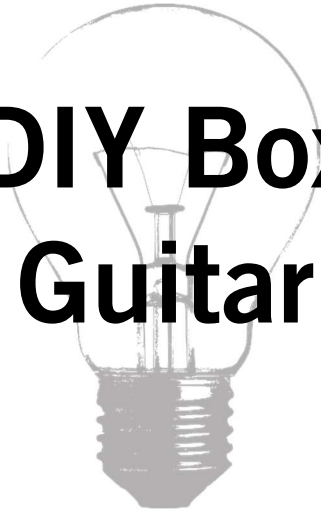
It's electric!

Sound is caused by vibrations that travel in waves through matter (solid, liquids, and gas). The plucking of a guitar string causes vibrations in the air (sound waves). The frequency of the sound waves (pitch) is affected by the thickness, length, and tension of the guitar string. On an acoustic guitar, the sound is amplified (made louder) by the sound hole and hollow guitar body.

On a solid body electric guitar, the sound is amplified via electromagnets placed directly below the strings. The vibrations of the strings interrupt the magnetic field below. The impacted electromagnetic signal then travels through an amplifier, which increases the electric signal before it is sent to a set of speakers. Electricity allows for a louder amplification, plus the ability to modify the sound in interesting ways!

Music is all around us! What are different ways of producing and amplifying sound?

DIY Box Guitar



Build a simple but musical guitar using household materials! Watch the video introduction on the MOHAI YouTube Channel (@mohaiprograms).



What you'll need:

- Cardboard box – small enough to fit rubber bands around it and a wide side with no seams (a tissue, cereal, or shoe box works well)
- Rubber bands – preferably a mix of different thicknesses and sizes, all big enough to fit around the length of your box
- Paper tube, paint stirrer, or thin rectangle of cardboard – this will be the “neck” of your guitar, and is purely decorative
- Two thin stick-like objects (pencils, markers, straws, chopsticks, etc.)
- Packing or duct tape
- Scissors

Optional:

- Box cutter
- Decoration supplies (glue, craft tape, colored paper, stickers, paint, pipe cleaner)

What you'll do:



1. Build the body of your guitar.

- Seal up any open sides of your guitar with packing or duct tape. It needs to be sturdy enough to hold the tension of the strings.
- Cut a hole in the front of your box. It should be wide enough for your guitar strings to pass over them, but not so large that your box loses its sturdiness.



2. Decorate your guitar

- Note: Depending on how you plan to decorate your guitar or the type of neck you are attaching, you may want to decorate before you cut a hole (step 1), or after you attach the neck (step 3).



3. Attach the neck of your guitar

- Use packing/duct tape or glue.
- Don't forget decorations! Perhaps you add horizontal stripes to mimic the frets of a guitar or add beads to the top as pretend tuning pegs.



4. String your guitar.

- Wrap rubber bands vertically around the body of your guitar. Make sure that they pass over the sound hole.
- Test how they sound – do you like the order they are in? Are they tight enough to vibrate when plucked?



5. Add a bridge and nut to your guitar.

- The bridge and nut of a guitar lift the strings away from the body so they vibrate more freely.
- Slide one of your sticks horizontally under your guitar strings below the sound hole (this one is the bridge), and the other one above the sound hole (this one is the nut).



6. Give it a strum!

- Adjust the positioning of the nut to make your strings longer and shorter. What makes the notes go higher or lower?
- How does a different box size/shape or thickness of rubber bands change the sound of your guitar? Make another or experiment with this one to find out!

Share your guitar on social media with us!

