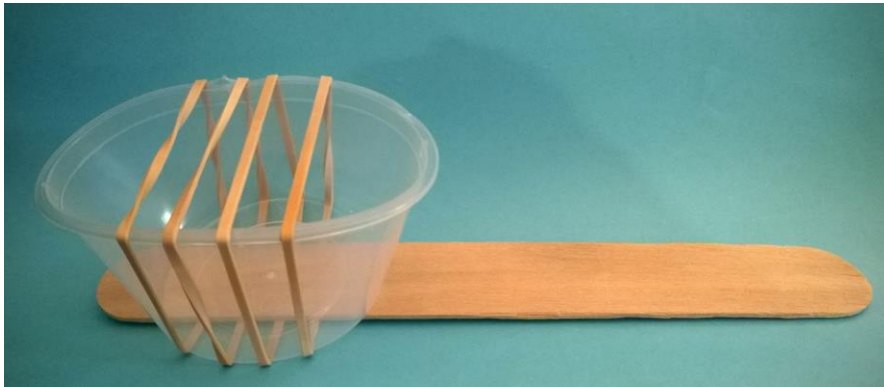




Try This **EXPERIMENT** @ Home!

## Build your own Musical Instruments!



You will need:

- A container (a small cup, cardboard box, or plastic bowl work perfectly)
- 5-6 rubber bands: try a range of thick and thin! (but make sure they will stretch across the width of your container)
- Wax paper
- Markers

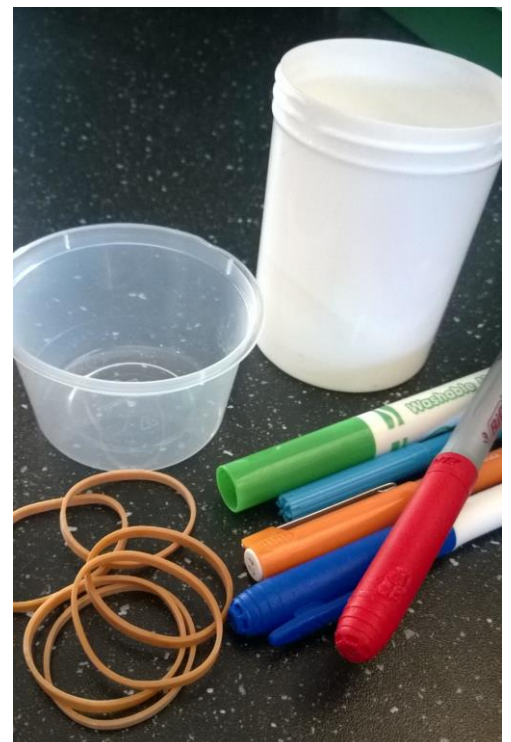
### To make a guitar

Step 1: Make sure your container has a round hole in one end – if you are using a cardboard box, cut a hole in the top of this. You can use your markers to decorate: the brighter the better! Try stripes, dots and lots of different colours.

Step 2: Stretch your rubber bands over the container, and line them up so the hole is covered evenly by the bands. Make sure that bands are not placed close to the edge of the hole to ensure that they do not slip off then you play your guitar!

Step 3: Pluck the strings of your guitar and hear the different sounds. If you want to get creative, use a wooden stick to create the neck of the guitar. Slide it behind the rubber bands to attach it to your guitar

**STOP & THINK** – Why are the notes created by the strings different? Can you change the sounds by using different rubber bands or a different container?



## To make a drum

Step 1: Make sure your container has a round hole in one end – if you are using a cardboard box, cut a hole in the top of this. You can use your markers to decorate this: the brighter the better! Try stripes, dots and lots of different colours.

Step 2: Place your wax paper over the hole, and use a rubber band to secure it around the rim of your container.

Step 3: Stretch one rubber band over the wax paper, so that it is wrapped around the top and bottom of your container. Pluck this band to hear your drum in action.

**STOP & THINK** – Why is the loud drumming noise created when you pluck the rubber band? Can you change the tone and volume by using different rubber bands or a different container?



## **What's happening?**

Sound energy moves through the air in waves, and allows us to hear different sounds and tones. When strings on instruments are plucked, the string vibrates and creates waves. These waves allow us to hear the sound of the instrument. Different materials create different wave frequencies, which is why many instruments like guitars and violins can have steel, nylon or even aluminium strings! Drums create sounds in a very similar manner, which is why you can create one with some rubber bands and wax paper!

**NOTE: This is a Street Science Original Activity and may be used only in publications with written permission of the Street Science Executive. For non-profit use only.**

