

GALLERY
EXPLORATIONACTIVE
LEARNING
GUIDEMUSIC
STUDIO

STRING VIBRATIONS

Whenever strings vibrate, they show us some cool scientific properties. The **Diameter** of the string effects the **Frequency** of the vibration just as much as the **Length** does. In fact, if you look at the strings of the **Guitar**, you will notice that all six strings are a little bit different. The largest strings are tuned to have the **Lowest Frequencies** and the smallest strings are tuned with the **Highest Frequencies**. With vibrating strings, whenever you place your finger on the string and pluck, you'll notice that you can control the **Frequency** of the string and make the sound higher or lower. This is the way you play most stringed instruments like the **Guitar, Violin, Cello**, and others.

What You Need:

- Mason Jar (Or a small bowl that has straight sides works as well)
- Rubber Bands

Activity Steps:

1. Using the rubber bands carefully stretch one of them over the top of the jar.
2. Pluck the rubber band and listen to the sound it makes. What happens to the Frequency whenever you stretch the rubber band a bit more?
3. Add additional rubber bands to the top making sure to leave a bit of space between them, you should be able to fit about 3 rubber bands.
4. Pluck the different rubber bands and see what the different frequencies are. If all three of the rubber bands make the same frequency, then stretch them tighter or loosen them to change the frequency.

