

# STEM challenge

## Jam Jar Jam

The science of sound is all about vibrations. In this challenge we will explore how to make different sounds with glass jars & water



1. Line up your jars.
2. Tap, with a spoon, each one and listen to the sound it makes.
3. Can you reorder them by the note they make?
4. Start with the highest pitch at one end and the lowest at the other.
5. Carefully pour a little water into each.
6. Try tapping them again. Has the sound changed? How?
7. Play around with adding different amounts of water to each jar before tapping them again.
8. What do you notice about the sounds?

When you tap the glass with the spoon, the glass vibrates, and it is these vibrations that make the sound. Did you discover that tapping a glass with not much water produced a higher-pitched sound than tapping a glass full of water did?

Adding water to the bottle dampens the vibrations created by striking the glass with a spoon. The less water in the glass, the faster the glass vibrates and the higher the pitch. The more water you add to the jar the slower the glass vibrates, creating a lower pitch.

