

## Water Bottle Music

1. The science of sound is all about vibrations
2. Hit the bottle with a spoon, the glass vibrates
3. The vibration makes the sound
4. Adding water to the bottle dampens the vibration
5. Less water in the bottle, the faster the glass vibrates, the higher the pitch
6. Add more water, the slower the glass vibrates, the lower the pitch
7. The same bottle that makes a low pitch when you tap it, makes a high pitch when you blow across the top
8. The same bottle produces opposite sounds!
9. When you blow into the bottle, you are making the air vibrate, not the glass.
10. An empty bottle produces a lower pitch because there's lots of air in the bottle to vibrate
11. Add water, decrease the air space, less air to vibrate
12. With less air, vibrations happen more quickly and produce a higher pitch
13. Using 8 bottles, or glasses, you can make a major scale
14. Try tapping and blowing
15. Can you play Jingle Bells/Mary Had a Little Lamb/Twinkle, Twinkle, Beethoven's 5<sup>th</sup> Symphony theme?