

Soda Bottle Sounds

Open the Online Tuner **found in my Handouts folder**. or...

<http://www.seventhstring.com/tuner/tuner.html>

The Online Tuner is an Oscilloscope. Oscilloscopes measure the Frequency of sound.

Part 1

1. Measure the height of the Pepsi bottle in cm.
2. Blow across the top of the bottle so that a sound is produced.
3. Use your computer and the Online Tuner to measure the frequency of the sound generated by blowing across the bottle.
4. Record your data in the table below.
5. Add 100 mL of water to the bottle
6. Repeat steps 1-4, be sure to measure the height of the bottle from the top of the water to the top of the bottle.
7. Repeat for the remaining amounts of water and different temperatures.

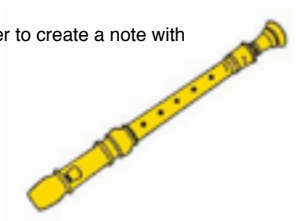
Amount of water	Height of Air Column in the bottle	Frequency Recorded (Hz)		
		Room Temp	Cold Water	Hot Water
0 mL				
100 mL				
200 mL				
300 mL				
400 mL				

1. Describe the relationship between the height of the bottle and the frequency of sound generated in this lab.

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2. Use the picture of the Recorder below to aid in the answering of the following questions.

a. Which holes would need to be covered in order to create a note with the highest possible frequency?



b. Which holes would need to be covered in order to create a note with the lowest possible frequency?

3. Did the temperature of the water effect the frequency of sound in the bottle? Explain why?