

Title: Changing Sound

Introduction: Sound waves travel in wavelengths that create different sounds or pitches. In this activity you will create sound waves with different wavelengths to see what relationship exists between the length of waves and the pitch of the sound.

Materials:

8 test tubes, Water, Test tube rack, Dropper, Metric ruler

Procedure:

1. Number the test tubes 1 through 8. Place the test tubes in the rack.
2. Leave test tube 1 empty. Add water to test tubes 2 through 8 so that each tube has a little more water than the preceding test tube. See figure 1 below.
3. Blow across the top of each test tube and listen to the tone produced. Record in the data table whether the tone increases or decrease compared to the test tube before it (lower numbered test tube).
4. Use the dropper to add or remove water from each test tube so that they sound like the tones of a musical scale.
5. Measure the length of the air column above the water in each test tube with a metric ruler. Record your measurements in the data table.
6. Answer the questions below.

Data and Observations:

Test Tube	Increased or decreased pitch	Length of air column (cm)
1		
2		
3		
4		
5		
6		
7		
8		