

Name: \_\_\_\_\_ Homeroom: \_\_\_\_\_

# Sound Exploration

## Station 1

**Materials:** iPad, Tone Generator App, headphones

**Procedure:**

1. Press play on Tone Generator app at 10 Hz.
2. Slowly increase the frequency of sound until you hear a sound.
3. Click lowest tone mark for sharing.
4. Continue to increase the frequency of sound until you no longer hear a sound.
5. Click highest tone mark for sharing.
6. Enter your results into the online survey.

**Observations:**

Lowest Frequency: \_\_\_\_\_ Highest Frequency: \_\_\_\_\_

## Station 2

**Materials:** string, metal clothes hanger

**Procedure:**

1. Hang the clothes hanger on the center of the string so the you are holding each end of the string in opposite hands.
2. Have your partner strike the hanger and listen.
3. Hold the ends of the string to each ear.
4. Have your partner strike the hanger and listen.

**Observations:**

Describe the difference you heard when you put the string to your ears: \_\_\_\_\_

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### Station 3

**Materials:** 3 tuning fork of various lengths

**Procedure:**

1. Measure the length of each tuning fork.
2. One at a time, tap each tuning fork on the table.
3. Place each tuning fork to your ear and listen.
4. Compare the length of the tuning fork to the frequency produced.

**Observations:**

Tuning Fork Number	Length of Tuning Fork (cm)	Frequency (highest, middle, lowest)
1		
2		
3		

### Station 4

**Materials:** Tuning Fork, Sound Box

**Procedure:**

1. Strike tuning fork detached from Sound Box.
2. Listen to the volume of sound.
3. Strike tuning fork place in the top hole of the sound box.
4. Listen to the volume of sound.

**Observations:**

Describe the difference in volume you heard when you put the tuning fork into the sound box: \_\_\_\_\_

\_\_\_\_\_

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### Station 5

**Materials:** 3 PVC pipes of various lengths

**Procedure:**

1. Measure the length of each PVC Pipe.
2. One at a time, put your ear to one end of the PVC pipe.
3. Listen.
4. Compare the length of the PVC to the frequency of sound heard.



**Observations:**

PVC Number	Length of PVC (cm)	Frequency (highest, middle, lowest)
1		
2		
3		

### Conclusion

1. How does age effect your abilities to hear certain frequencies of sound?
2. Through what medium did the vibrations in the hanger travel to reach your ears when you held the string to them? When you did not hold the string to them?
3. Based on your observations how does length of tuning fork effect frequency produced?
4. How did the sound box affect the volume of tuning fork? Why do you think this happened?
5. Based on your observations how does length of PVC effect sound heard?