**Sound Vibration Station 4: Telephone, Whirly Whirly and Musical Glasses**

**Part 1: Whirly Whirly**

1. Take sound tube and slowly twirl it above your head. Answer question #1.

2. Increase the speed of the tube. Answer question #2.

3. Change the directions you spin the tube. Answer question #3

4. Change the end of the tube you are holding (hold the other end) and do all of the above steps again. Answer question #4.

5. Choose the end of the tube to hold that worked the best and try lifting the tube up and down when you spin it. Answer question #5.

**Questions:** Answer on a separate piece of paper using complete sentences with a restate.

1. What did it sound like? What type of sound did it make?

2. Did the sound change when you increased the speed? What did it sound like?

3. Did changing the directions change the sound?

4. Did changing the direction of the tube change the sound?

5. Write a statement explaining how best to get sound from the tubes.

**Part 2: Telephone**

Raise your hand and wait patiently for Ms. Murphy, exchange the whirly whirly materials for your telephones.

1. One person should hold a cup to their ear and the other partner should talk into the cup. Make sure the string is tight but do not pull the string out of the cups!

2. Answer questions below on the same paper you used for Whirly Whirly but be sure to title them “Part 2: Telephone”.

**Questions:**

1. How is sound transferred from one cup to the other?

2. What is the medium that is being transferred in?

3. Sound waves are what type of wave?

**Part 3: Musical Glasses**

1. Raise your hand and wait patiently for Ms. Murphy, exchange your telephones for glasses.

2. Take your finger and rub along the rim of the glass, record your observations on the same piece of paper you used for the last two activities. Be sure to title it “Part 3: Musical Glasses” then “Observation 1”

3. Tap the side of the glass and record your observations.

4. Fill the glasses with different amounts of water (cover the bottom, half way and full), rub your finger around the rim of the glass. Record your observations and title it “Observation 2”.

5. Tap the side of the glass and record your observations.

6. Answer the following questions using complete sentences with a restate.

**Questions:**

1. What is creating the sound when you rub your finger along the rim?

2. What is changing the pitch of the sound you make from the glass?

3. What was the difference in sound when you tapped versus when you rubbed the glass?

**Next**

7. Raise your hand and wait patiently for Ms. Murphy to exchange your glasses for the article “Why Do Glass Cups Make a Ringing Noise?”

8. Read the article and add to your answers for the three questions you answered previously.