

Best Parent-Annoyer

Overview: This is one of my absolute favorites, because it's so unexpected and unusual. The setup looks quite harmless, but it makes a sound worse than scratching your nails on a chalkboard. If you can't find the weird ingredient, just use water and you'll get nearly the same result (it just takes more practice to get it right). Ready?

NOTE: DO NOT place these anywhere near your ear... keep them straight out in front of you.

What to Learn: Sound is made by vibrating objects and can be described by its pitch and volume.

Materials

- water or violin rosin (this is the weird ingredient)
- string (a few feet)
- cup (disposable plastic)
- pokey-thing to make a hole in the cup

Lab Time

1. Poke a hole in the bottom of the cup that's large enough to thread the string through.
2. Thread the string through the hole and tie a knot in the other end of the string. Pull the string through the cup up to the knot.
3. Soak the string in water. Alternately, put a layer or two of violin rosin along the length of the string. Make sure you get all sides of the string coated with rosin.
4. Hold the cup in one hand while pinching the string with two fingers of the other hand so that your fingers are able to stick and slip down the string.
5. If done just right, you should be able to hear the annoying sound!

Best Parent-Annoyer Data Table

String Length <i>(measure in inches or cm)</i>	Pitch Observed <i>(high, medium, low)</i>

Reading

Sound travels in vibrating waves, like ripples in a pond moving outward from a dropped stone. There are three components to sound that we'll learn about today: Volume is how loud or soft a sound is, tone is the character of the sound, and pitch is how high or low the sound is.

Pitch is directly related to the vibrational frequency of a sound. Higher pitches have higher frequency and more vibration. Lower pitches are the opposite – with slower vibrations and lower pitch.

Exercises Answer the questions below:

1. What does the rosin (or water) do in this experiment?

2. What is vibrating in this experiment?
3. What is the cup for?

Answers to Exercises: Best Parent-Annoyer

1. What does the rosin (or water) do in this experiment? (It creates a stick-and-slip surface that creates sound from friction.)
2. What is vibrating in this experiment? (The string.)
3. What is the cup for? (To amplify the sound)